Medical TIMES

THE JOURNAL OF GENERAL PRACTICE

Practical Evaluation of Nystagmus

Spontaneous Abortion

A Philosophy of Medical Practice

Management of Addictions

Diagnosis of Pheochromocytoma

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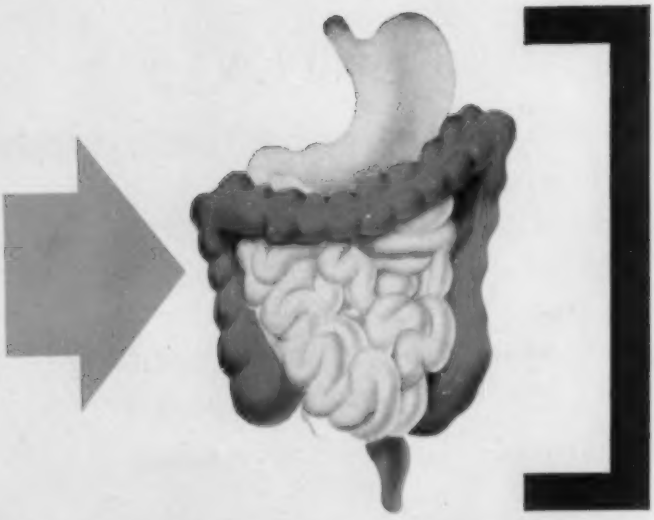
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(1) Kleckner, M. S., Jr.: J. Louisiana M. Soc. *108*:359, 1956. (2) Riese, J. A.: Am. J. Gastroenterol. *28*:541, 1957. (3) Settel, E.: J. Am. Geriatrics Soc. In press. (4) Jefferson, N. C., and Necheles, H.: J. Urol. *76*:651, 1956. (5) Necheles, H., and Kirsben, M. M.: The Physiologic Basis of Gastrointestinal Therapy, New York, Grune & Stratton, Inc., 1957, p. 88.

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1. Scherr, M. S.: Ann. Allergy, 16:247-251, 1958. 2. Tuft, H. S.: Ann. Allergy, 15:420-422, 1957. 3. Brown, E. A. and Clancy, R. E.: Ann. Allergy, 13:543-550.

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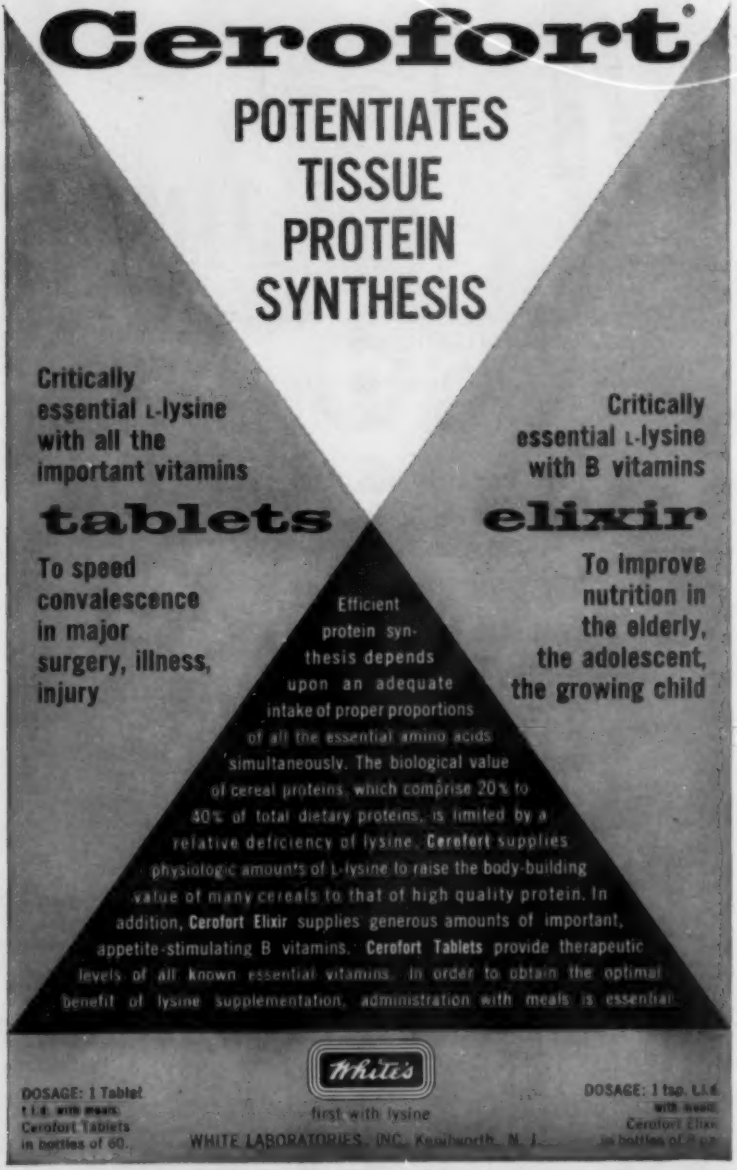
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REFERENCES: 1. Van Wijk, T.W.: Angiology 4:103, 1953. 2. Gillhespy, R.O.: Brit. M. J. 2:1543, 1957. 3. Gillhespy, R.O.: Angiology 7:27, 1956. 4. Winsor, T.: Angiology 4:134, 1953. 5. Reeder, J.J.: Geneesk. gids. 31:370, 1953.

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Vaginal Preparations
Lycinate Vaginal Tablets 101a
Nylmerate Jelly 221a
Premarin Vaginal Cream 165a
Triva 110a, 111a

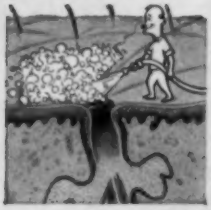
Vitamins and Nutrients
Beminal Forte with Vitamin C 42a
Bivam 226a, 227a
Cerofort 16a
Deca-Vi-Sol between pages 112a, 113a
Delectavites 76a, 93a, 146a, 230a
Eldec Kapseals 31a
Engran 61a
Livitamin between pages 34a, 35a
Myadec 183a
Natabec Kapseals 145a
Novo Basic 109a
Paladac 71a
Poly-Vi-Sol between pages 112a, 113a
Sustagen 65a
Thera-Combex 11a
Tri-Vi-Sol between pages 112a, 113a

Weight Control
Preludin opposite page 50a

Wound Healing
Panafil 62a

IN ACNE

Fostex® degreases the skin and helps remove blackheads



Fostex contains a combination of surface active agents (Sebulytic*) which:

◂ Completely emulsify excess oil so that it is quickly washed off the skin.



◂ Penetrate and soften comedones, unblocking the pores and facilitating removal of sebum plugs.



Fostex dries and peels the skin

◂ The Sebulytic base of Fostex dries and promotes peeling of the skin . . . actions enhanced by the keratolytic effects of micropulverized sulfur and salicylic acid.

*(Sodium lauryl sulfoacetate, sodium alkyl aryl polyether sulfonate, sodium dioctyl sulfosuccinate.)

FOSTEX CREAM for therapeutic washing of skin in the initial phase of acne treatment, when maximum degreasing and peeling are desired.

FOSTEX CAKE for maintenance therapy to keep skin dry and substantially free of comedones.

Fostex is easy for your patients to use

◂ Patients stop using soap on affected skin areas. Instead they use Fostex for therapeutic washing of the skin. The Fostex lather is massaged into the skin for 5 minutes—then rinse and dry.

Write for samples

WESTWOOD *Pharmaceuticals*
Division of Foster-Milburn Co. Buffalo 13, New York

Donnagesic Extentabs®

Robins

extended action tablets of Codeine with Donnatal®

. . . bottles of 30 and 250

Lights out, pain's out, all night long . . . Donnagesic, the first 12-hour analgesic, gives pain-free nights to patients with postsurgical or gastrointestinal pain, or other sustained somatic and visceral discomfort. Donnagesic's subtly balanced combination of codeine and Donnatal gives more analgesia without more codeine . . . with fewer codeine side effects.

DONNAGESIC No. 1 (pink) CODEINE Phosphate (¼ gr.) 48.6 mg. / Hyoscyamine Sulfate 0.3111 mg. / Atropine Sulfate 0.0582 mg. / Hyoscine Hydrobromide 0.0195 mg. / Phenobarbital (¼ gr.) 48.6 mg. / also available. **DONNAGESIC No. 2 (red)** containing 1½ gr. (97.2 mg.) codeine phosphate. / Since one Donnagesic Extentab gives continuous analgesia for 10 to 12 hours, it replaces the equivalent dose of 3 codeine tabs and 3 Donnatal tabs, and the cost is practically the same. / **A. H. ROBINS CO., INC.**, Richmond Va. / Ethical Pharmaceuticals of Merit Since 1878



THIS PATIENT IS GETTING "INJECTION EQUIVALENT" ANDROGEN

You can take advantage of buccal vascularity for rapid, efficient, thorough absorption of androgen. Metandren Linguets offer the therapeutic equivalent of intramuscular androgen, without painful injections, local reactions, irregular doses or lost working hours.

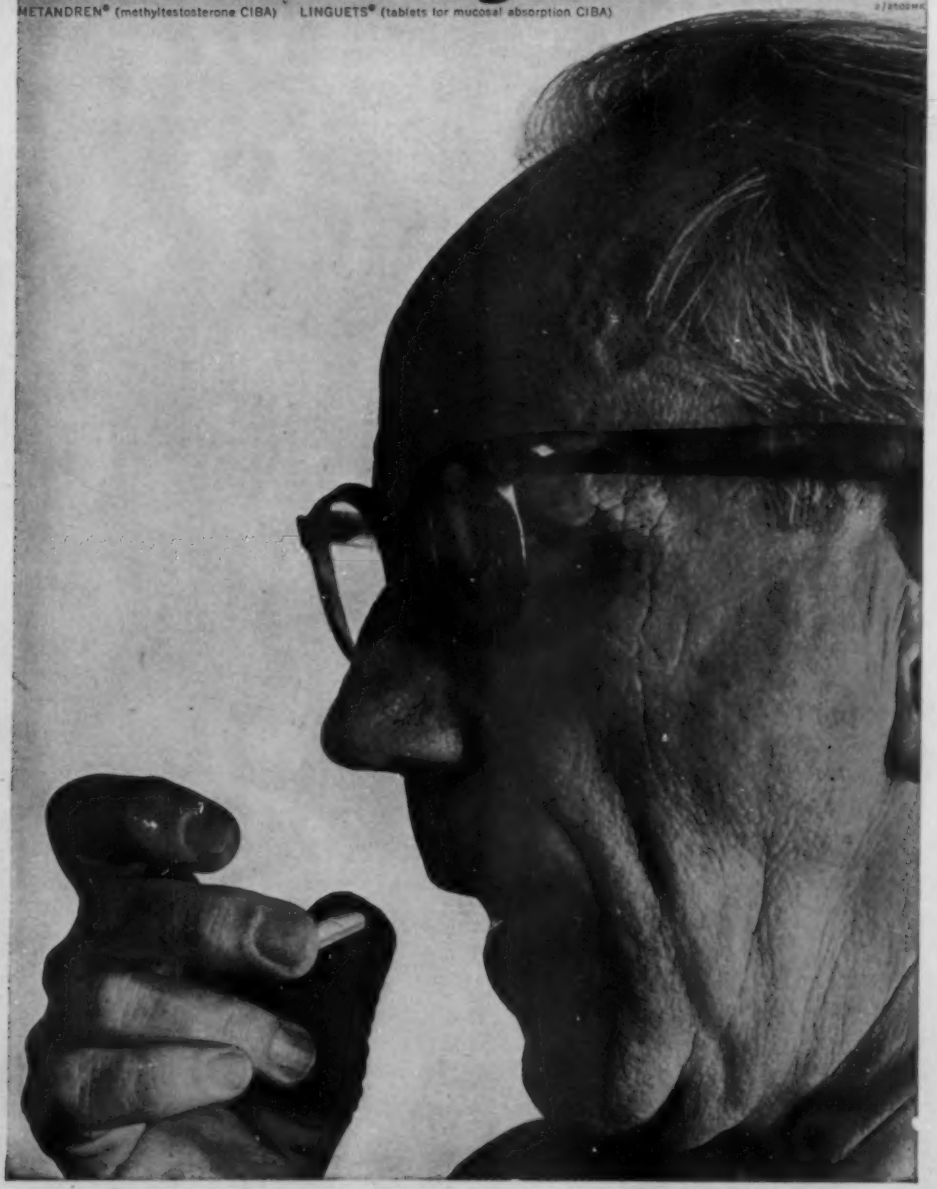
In Males climacteric, impotence, angina pectoris. **In Females** menopause, frigidity, premenstrual tension and dysmenorrhea, functional uterine bleeding. **In Both** for anabolic effects and chronic debility after: severe injury, prolonged illness, major surgery, severe malnutrition, severe infection.

Metandren® Linguets®

SUPPLIED: LINGUETS 5 mg. (white, scored) and 10 mg. (yellow, scored)

CIBA SUMMIT, N. J.

METANDREN® (methyltestosterone CIBA) LINGUETS® (tablets for mucosal absorption CIBA)





Off the Record . . .

True Stories From Our Readers

Each incident described has been contributed by one of our readers. Contributions describing actual and unusual happenings in your practice are welcome. For obvious reasons only your initials will be published. An imported German apothecary jar will be sent in appreciation for each accepted contribution.

High Octane

A female patient was advised to douche three time a day. She and her family live next door to a filling station which her husband runs. Her four-year-old son, who hangs around the gas pumps all day, inadvertently caught her taking a douche. He exclaimed, in all seriousness . . . "Hay, Ma, are you filling 'er up with regular or ethyl?"

B. M., M.D.
Huntington Beach, Calif.

Ill-lumined

I answered my phone past midnight one night and, after learning what road I was to take to see the patient, I asked the lady to leave her porch light on so that I could find the right farm.

I hurried out that way and spying a house with a lighted porch light I stopped. No one came immediately to the door, so thinking that the lady might be too sick to answer I walked in. In about a minute I was confronted by an elderly lady in her night shirt and brandishing a very big shot gun. Fortunately, I was carrying my out-call bag and with a bit of fast talking she was convinced that I was the Doctor.

I made my retreat and hastened on down the road to the second porch light where I very cautiously heralded my approach with enough ringing of the bell to get an answer before I entered.

D.R., M.D.
Woodburn, Ore.

Hypertensive

One of the bon vivants about town visited me recently. He gave a history of drinking untold amounts of whiskey, over a long period of time. His complaints were, naturally, jitteriness with inability to sleep.

After examining him, I gave him a prescription for one of the proprietary barbiturate products and advised him to go home and start taking them. He gave me a real frightened quizzical look and blurted out, "Are these pills habit forming?"

D.D.D., M.D.
Hoboken, N. J.

—Concluded on page 29a

SEARLE

a superior psychochemical

for the management of both

minor and major

emotional disturbances



Dar

Dartal

- more effective than most potent tranquilizers
- as well tolerated as the milder agents
- consistent in effects as few tranquilizers are

Dartal is a unique development of Searle Research, proved under everyday conditions of office practice

It is a single chemical substance, thoroughly tested and found particularly suited in the management of a wide range of conditions including psychotic, psychoneurotic and psychosomatic disturbances.

Dartal is useful whenever the physician wants to ameliorate psychic agitation, whether it is basic or secondary to a systemic condition.

In extensive clinical trial Dartal caused no dangerous toxic reactions. Drowsiness and dizziness were the principal side effects reported by non-psychotic patients, but in almost all instances these were mild and caused no problem.

Specifically, the usefulness of Dartal has been established in psychoneuroses with emotional hyperactivity, in diseases with strong psychic overtones such as ulcerative colitis, peptic ulcer and in certain frank and senile psychoses.

Usual Dosage
- In psychoneuroses with anxiety and tension states *one 5 mg. tablet t.i.d.*
- In psychotic conditions *one 10 mg. tablet t.i.d.*

tal T.M.

dihydrochloride

brand of thiopropazate dihydrochloride

25,000,000 courses of treatment— and NO "resistance" problems

*Conservative estimate based on combined use of all FURACIN preparations since 1946.

FURACIN®

In clinical use for more than 12 years and today the most widely prescribed single topical antibacterial, FURACIN—like other nitrofurans—remains effective against pathogens which have developed, or are prone to develop, resistance to other antibacterial agents. There has been no evidence that originally sensitive strains of staphylococci or other bacteria lose their susceptibility to FURACIN in any significant degree.

the wide-spectrum antibacterial exclusively for topical use ... in dosage forms for every topical need

Available as Soluble Dressing, Soluble Powder, or Solution. Also in Vaginal and Urethral Suppositories and in special formulations for eye, ear and nose.

one of the unique nitrofurans— products of Eaton research

Eaton Laboratories, Norwich, New York

—Concluded from page 25a

Calling All Draftsmen

A woman called my secretary and asked if she could make an appointment to be fitted for a diagram.

H.K.B., M.D.
Toledo, O.

Rest in Peace

John had been under my care for some years and had recently suffered a severe coronary attack. He was told to take it easy from then on but, for John, this was no simple matter. He could not even stay out of his usual work for the time necessary to recover from the initial effects of his attack, for Mabel, his wife, wouldn't let him. "How could we get along, if John doesn't work?" (we meaning, mostly, Mabel and her hatchet-faced, tight-lipped father, both of whom eyed all and sundry about them with an air of open malice and suspicion).

Well, a family doctor can only give the advice and John did not take mine —he worked hard and he fretted hard, dogged by a wife and father-in-law whose favorite pastime was to hold tirades against in-laws they disliked, whether present for them to hear or absent so that their ears might burn.

Several months after this heart attack, on a beautiful Sunday afternoon, I received a phone call from Mabel. In a matter-of-fact, calm, though somewhat puzzled voice, she told me of finding John "lying on the floor, in the bedroom." As an irrepressible "Oh, my goodness" fairly screamed out of my throat, for I was fond of the poor, downtrodden man, Mabel added the following: "You know, Doc, Papa and I can't figure it out—whether he's drunk or maybe dead." Before I could overcome my bewilderment, she asked if I thought she ought to wait a while and see what happened, or what? Since they lived in a suburban community some good forty minutes travel from my home, I suggested she call the ambulance at once.

About an hour later, Mabel called me again, her voice, still calm but a little quiet, greeted me with: "Y'know, Doc, John wasn't drunk after all—he was just dead."

A. E. B., M.D.
Brooklyn, N. Y.

Symptom is Wrong

Dr. Walls is a busy man. He uses a dictaphone and his aide signs his letters which are marked, "Dictated but not read by Dr. Walls."

The last patient he referred to me brought a letter which began: "Please examine Mr. Englar who has become sexually impudent."

The rest of the letter give a few details but failed to explain just how exactly Mr. Englar expressed his impudence.

I looked out into the waiting room. Mr. Englar sat quietly and there was no sign that my nurse had been pinched or even winked at.

After my examination of the patient I took special care in reading my letter to Dr. Walls which my secretary typed. It began: "Thank you for referring Mr. Englar whom I have examined for his complaint of sexual impotence."

J.A.W., M.D.
Chapel Hill, N. C.

IN OFFICE SURGERY

ELECTIVE AND TRAUMATIC

use XYLOCAINE *first...*
as a local anesthetic
or a topical anesthetic

SWAB **SPRAY** **INFILTRATION** **NERVE BLOCK**



Xylocaine HCl solution, the versatile anesthetic for general office surgery, relieves pain promptly and effectively with adequate duration of anesthesia. It is safe and predictable. Local tissue reactions and systemic side effects are rare. Supplied in 20 cc. and 50 cc. vials; 0.5%, 1% and 2% without epinephrine and with epinephrine 1:100,000; also in 2 cc. ampules; 2% without epinephrine and with epinephrine 1:100,000.

XYLOCAINE® HCl SOLUTION
(brand of lidocaine*)

Astra Pharmaceutical Products, Inc., Worcester 6, Mass., U.S.A.

*U.S. PAT. NO. 3,441,639 MADE IN U.S.A.

taken throughout the "autumn" of life...

ELDEC® Kapseals®

comprehensive physiologic supplement

help improve vitality during the "winter" years

vitamins and minerals to maintain cellular function...
enzymes to aid digestion...
protein improvement factors
to help maintain nitrogen balance...
steroids to stimulate metabolism





each Kapseal contains:

VITAMINS	
Vitamin A	1,667 Units (0.5 mg.)
Vitamin B_1 mononitrate	0.67 mg.
Ascorbic acid	33.3 mg.
Nicotinamide	16.7 mg.
Vitamin B_2	0.67 mg.
Vitamin B_6	0.5 mg.
Vitamin B_{12} with intrinsic factor concentrate	0.033 USP Unit (oral)
Folic acid	0.1 mg.
Choline bitartrate	6.67 mg.
Pantothenic acid (as the sodium salt)	5 mg.
MINERALS	
Ferrous sulfate (exsiccated)	16.7 mg.
Iodine (as potassium iodide)	0.05 mg.
Calcium carbonate	66.7 mg.
DIGESTIVE ENZYMES	
Taka-Diastase®	20 mg.
Pancreatin	133.3 mg.
PROTEIN IMPROVEMENT FACTORS	
l-Lysine monohydrochloride	66.7 mg.
dl-Methionine	16.7 mg.
GONADAL HORMONES	
Methyl testosterone	1.67 mg.
Theelin	0.167 mg.

DOSAGE:

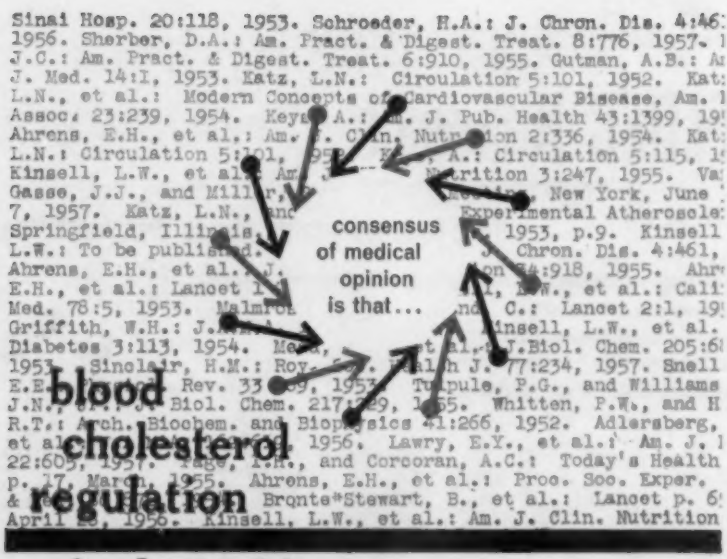
One Kapseal three times daily before meals. Female patients should follow each 21-day course with a 7-day rest interval.

PACKAGING:

ELDEC Kapseals are available in bottles of 100.

MEDICAMENTA PARKE-DAVIS

PARKE, DAVIS & COMPANY • DETROIT 32, MICHIGAN



is desirable

That elevated blood cholesterol levels can be readily reduced or prevented by the addition to the diet of various vegetable fats containing linoleic acid has been observed by numerous investigators. It also appears that diets rich in essential fatty acids are much more effective in lowering plasma-lipid levels than are the low-fat (high-carbohydrate) diets.

Arcofac, a nutritional supplement, contains linoleic acid, an essential polyunsaturated fatty acid in high concentration. In addition, it also provides vitamin B_6, deemed necessary for conversion of linoleic acid into the primary essential fatty acid, arachidonic acid. The body apparently is dependent upon an adequate intake of both linoleic acid and vitamin B_6 for normal cholesterol levels. The presence of vitamin E, a powerful antioxidant, helps maintain the fatty acids in an unsaturated state.

The Arcofac regimen is safe . . . effective . . . well tolerated . . . and imposes no radical changes in diet. Virtually all foods (including animal fats) may be eaten, if a proper balance is maintained between saturated and unsaturated fatty acids. Prophylactic dosage is 1–2 tablespoonfuls daily; therapeutic—2–8 tablespoonfuls daily.

Each tablespoonful (15 ml.) of Arcofac emulsion contains:

Essential fatty acids†.....6.8 Gm.
(measured as linoleic) with 2.5 I.U. of Vitamin E*

Pyridoxine hydrochloride
(Vitamin B_6).....1.0 mg.

†Supplied by safflower oil which contains the highest concentration of polyunsaturated fatty acids of any commercially available vegetable oil.

*Added as Mixed Tocopherols Concentrate, N.F.

Arcofac ® Armour Cholesterol Lowering Factor

References on request

THE ARMOUR LABORATORIES A DIVISION OF ARMOUR AND COMPANY • KANKAKEE, ILLINOIS

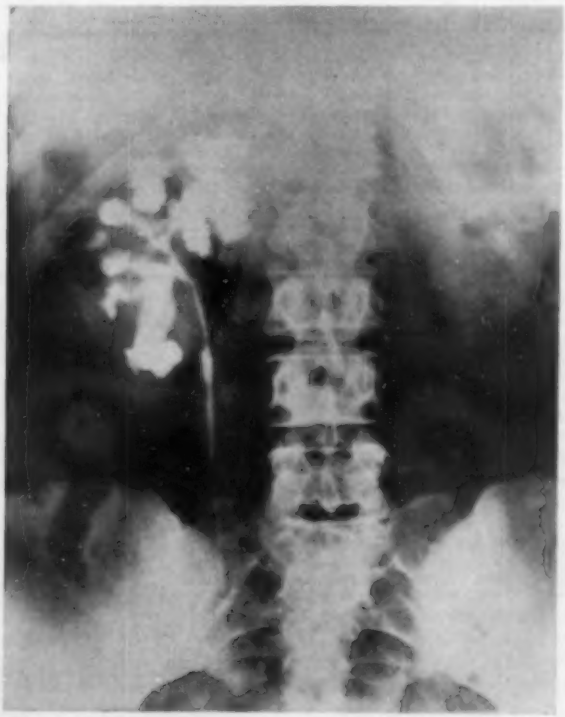
Diagnosis, Please!

Edited by Maxwell H. Poppel, M.D., F.A.C.R., Professor of Radiology,
New York University College of Medicine and Director of Radiology, Bellevue Hospital Center

WHICH IS *YOUR* DIAGNOSIS?

1. Tumor
2. Tuberculosis
3. Hydronephrosis
4. Perinephritic abscess

(Answer on page 190a)



A CIBA Documentary Report

How clinicians evaluate the safety and effectiveness of RITALIN® as a psychic stimulant

CONDITIONS TREATED	RESULTS	COMMENTS ON SAFETY
Depression accompanying chronic illness and convalescence from short-term illness; mild depression induced by life pressures; overtranquilization.	"The drug gave a plateau type of stimulation, smooth onset, with no euphoria . . . The effect lasted about four hours, gave the patient a feeling of well-being . . ."	"The side effects of Ritalin are minimal." "The work showed that the drug had no effect on blood pressure, the blood count, urine or blood sugar, did not depress the appetite, and produced no tachycardia."[1]
Lethargy, fatigue and emotional depression secondary to chronic illness in elderly patients; mild depression secondary to short-term illness. (Twenty-three "normal," healthy people also received the drug.)	"For the entire 112 patients 66 per cent showed marked improvements [obvious drug effect and mood improvement] . . ."	"No serious side reactions were noted . . . In no case was it necessary to stop the drug. No evidence of significant effect upon blood pressure or pulse has been found. This is particularly interesting, since these side effects have been common with other mood elevating drugs . . ."[2]
Drug-induced psychophysiologic depression; physiologic after-effects of certain anesthetics; barbiturate intoxication; moribund states due to systemic infection. (All patients were epileptic, mentally retarded and/or brain damaged.)	"All except two [of 129] patients responded to the initial injection [of parenteral Ritalin] within 1½ to 15 minutes."	"In no instance was there any evidence of untoward effects." ". . . the very poor basic physical condition of our patients in this study, those associated with profound chronic brain damage, accentuates the safety of parenteral Ritalin . . ."[3]

DOSAGE: *Oral:* Dosage will depend upon indication and individual response. Many patients respond to 10 mg. b.i.d. or t.i.d. Others will require 20-mg. doses. In a few cases, 5-mg. doses will be adequate. If inability to sleep is encountered, last dose should be given before 6 p.m. *Parenteral:* 10 to 30 mg., intravenously or intramuscularly.

RITALIN® hydrochloride (methylphenidate hydrochloride CIBA)

References. 1. Natenshon, A. L.: Dis. Nerv. System 17:392 (Dec.) 1956. 2. Landman, M. E., Preisig, R., and Perlman, M.: J. M. Soc. New Jersey 55:55 (Feb.) 1958. 3. Carter, C. H., and Maley, M. C.: Dis. Nerv. System 18:146 (April) 1957.

CIBA SUMMIT, N. J.

which women...

and when...

need

iron therapy?



Many clinicians agree that the normal woman of child-bearing age requires iron therapy for a month or six weeks of *each* year.

Iron-deficiency anemia, usually identified as hypochromic microcytic anemia, is seen in most age groups, from the adolescent to the senior members.

For the treatment of these common anemias, Livitamin offers *peptonized* iron—virtually predigested, well absorbed, and less irritating than other forms. The Livitamin formula, which contains the B complex, provides integrated therapy to normalize the blood picture.

Formula: Each fluidounce contains:

Iron peptonized (Equiv. in elemental iron to 71 mg.)	420 mg.
Manganese citrate, soluble	158 mg.
Thiamine hydrochloride	10 mg.
Riboflavin	10 mg.
Vitamin B_{12} Activity (derived from Cobalamin conc.)	20 mcg.
Nicotinamide	50 mg.
Pyridoxine hydrochloride	1 mg.
Pantothenic acid	5 mg.
Liver fraction 1	2 Gm.
Rice bran extract	1 Gm.
Inositol	30 mg.
Choline	60 mg.

LIVITAMIN®

with Peptonized Iron

The S. E. MASSENGILL Company BRISTOL, TENNESSEE • NEW YORK • KANSAS CITY • SAN FRANCISCO

To ensure desired therapeutic response — look to peptonized iron



CURRENT STUDIES* SHOW PEPTONIZED IRON

One-third as toxic as ferrous sulfate.

Absorbed as well as ferrous sulfate.

Non-astringent.

Free from tendencies to disturb digestion. (One-tenth as irritating to the gastric mucosa as ferrous sulfate.)

More rapid response in iron-deficient anemias.

*Keith, J.H.: Utilization and Toxicity of Peptonized Iron and Ferrous Sulfate, Am. J. Clin. Nutrition 1:35 (Jan.-Feb., 1957).

Currently, mailings will be forwarded only at your request. Write for samples and literature.

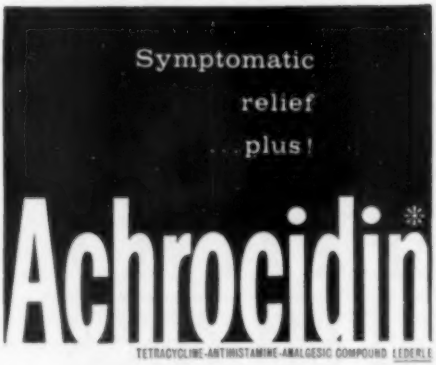
LIVITAMIN®

with Peptonized Iron

The S. E. MASSENGILL Company BRISTOL, TENNESSEE • NEW YORK • KANSAS CITY • SAN FRANCISCO









pneumonitis

adenitis

sinusitis

otitis

bronchitis

COMBINES: Traditional components for relief of the annoying symptoms of early upper respiratory infections...

PLUS: Protection against bacterial complications often associated with such conditions.

TABLETS (sugar coated)
Each contains:

ACHROMYCIN* Tetracycline	125 mg.
Phenacetin	120 mg.
Caffeine	30 mg.
Salicylamide	150 mg.
Chlorothen Citrate	25 mg.

Bottles of 24 and 100.

SYRUP (lemon-lime flavored, caffeine-free)
Each 5 cc. teaspoonful contains:

ACHROMYCIN* Tetracycline equivalent to Tetracycline HCl	125 mg.
Phenacetin	120 mg.
Salicylamide	150 mg.
Ascorbic Acid (C)	25 mg.
Pyrilamine Maleate	15 mg.
Methylparaben	4 mg.
Propylparaben	1 mg.

Bottle of 4 fl. oz.

Adult dosage for ACHROCIDIN Tablets and new caffeine-free Syrup is two tablets or teaspoonfuls of syrup three or four times daily. Dosage for children adjusted according to age and weight.

Available on prescription only.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, N. Y.
*Reg. U. S. Pat. Off

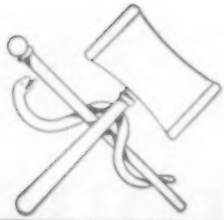
proven effective and unusually well tolerated in over 600 clinical studies

■ **does not impair mental efficiency or physical performance** ■ **relieves both mental and muscular tension** ■ **does not affect autonomic function**

Miltown®

meprobamate (Wallace)

WALLACE LABORATORIES ■ New Brunswick, New Jersey



What's Your Verdict?

Edited by Ann Ledakowich, Member of the Bar of New Jersey

A woman engaged a physician for the removal of moles from her face. During the operation the heated cautery blade cracked and fell on a towel at the patient's neck. In a joint attempt by the physician and patient to remove the blade, the patient suffered burns on her neck and her clothes were damaged. She subsequently sued the physician to recover compensation for her injuries.

At the trial of the action the cautery was produced in court as evidence. It was an assembled pencil-like instrument having an electrical cord. The tip, which was subject to being heated, was attached to the base by threads, and also by being soldered or welded.

Counsel for the patient made the contention that the instrument was a dangerous one, capable of causing injury. Inspection and use of the instrument were in the exclusive control of the doctor. He thus had sole knowledge, or is legally charged with the knowledge, that the instrument was mechanically defective. The mere fact that the instrument broke during the operation and caused injury thus raises in law an inference of negligence on the part of the doctor. This is known as the doctrine of res ipsa loquitur.

The defense counsel argued that the physician should not be charged with knowledge of defects in the instrument because it was not subject to being disassembled for inspection. He had exercised due care in the maintenance and use of the cautery at all times. The cautery had been purchased four years previously, used on occasion, and otherwise was kept enclosed in a case. Before it was used on the patient it was tested by preheating and touching against absorbent cotton. The instrument showed no sign of any imperfections and had been in good condition until it broke upon removal of the second mole on the patient's face.

The trial court entered judgment in the physician's favor for failure to show any negligence on his part. The patient appealed. How would you decide the appeal?

(Answer on page 190a)



New from Carnation



Carnation Company announces a new ready-prepared infant formula based on the medical preference for evaporated milk

Carnalac is Carnation Evaporated Milk with carbohydrate and Vitamin D added. Diluted with water, Carnalac provides the typical Carnation Evaporated Milk *formula*, as usually prepared at home.

EASY TO SPECIFY–JUST ADD WATER

New convenience and time-saving for busy doctors and mothers

NOW–2 WAYS TO SPECIFY CARNATION EVAPORATED MILK

1. *for maximum convenience*





2. *for maximum flexibility and economy*

BOTH PROVIDE THE UNIFORM HIGH QUALITY AND PROVEN PERFORMANCE OF CARNATION EVAPORATED MILK

Intravenous blood levels with rectal administration

CLYSMATHANE®

(Fleet)

Disposable Rectal Unit

An advanced method of theophylline therapy

For the alleviation of symptoms in bronchial asthma and the acute episodes of heart failure, Clysmathane (Fleet) supplies speedy and therapeutically adequate blood levels[1] of theophylline. Side effects, often associated with oral or parenteral administration, are minimized by the rapid rectal route provided by Clysmathane.



The new six-unit PRESCRIPTION PACKAGE of Clysmathane (Fleet) is more convenient to prescribe while assuring an adequate supply for patients. Disposable, single dose squeeze bottle is especially designed for self-administration . . . ready to use with prelubricated rectal tube. The manufacturer's labels are readily removable.

Dosage: One Clysmathane (Fleet) Unit as a retention enema before retiring or as directed.

Composition: Theophylline monoethanolamine (Theamin, Fleet), 0.625 Gm.; aqua, 37 ml. in single dose rectal dispenser. Prescription package of six individual units. Manufacturer's label readily removable.

(1) Ridolfo, A. S. & Kohlstaedt, K. G. "A simplified method for the rectal administration of theophylline," to be published.

Professional samples and literature on request, write:

C. B. FLEET CO., INC.

Lynchburg, Virginia

Fleet



HELPS PALSIED PATIENTS "LIVE AGAIN"

COGENTIN®

METHANESULFONATE (BENZTROPINE METHANESULFONATE)

rated the best single drug for the palsied patient[1]

- Well tolerated and markedly effective, COGENTIN *"should be added to the treatment program of every patient with paralysis agitans."*[2]
- COGENTIN *gives symptomatic relief* in all types of parkinsonism—whether postencephalitic, idiopathic, or arteriosclerotic.
- COGENTIN *provides highly selective action* such as no other current drug affords.[2] It is often of benefit in rigidity, muscle spasm, even in severe tremor.[3] The contracture of parkinsonism is relieved and posture is improved.[3]
- *With the help of* COGENTIN, *therapy with tranquilizers can often be continued* in patients in whom trembling would otherwise force reduction or withdrawal.[4]

As COGENTIN is long-acting, one dose daily may be sufficient.

Supplied: as 2 mg. quarter-scored tablets in bottles of 100 and 1000.

1. M. Clin. North America 38:485 (March) 1954. 2. J.A.M.A. 162:1031, 1956. 3. J.A.M.A. 156:680, 1954. 4. Yale J. Biol. & Med. 28:308, 1955/56.

COGENTIN is a trade-mark of Merck & Co., Inc.

MERCK SHARP & DOHME
DIVISION OF MERCK & CO., Inc., PHILADELPHIA 1, PA.



Give your patient that extra lift with "Beminal" Forte

DURING PROLONGED ILLNESS, IN INFECTION, OR PRE- AND POSTOP

JUST ONE CAPSULE DAILY now gives therapeutic amounts of vitamin C and massive doses of B factors. Prescribe "Beminal" Forte for patients with chronic diseases and those on special diets. Where especially high vitamin B and C requirements are indicated, particularly pre- and post-operatively, 2 or 3 capsules may be given daily. (The vitamin C content was recently increased from 150 to 250 mg. with no increase in price.)

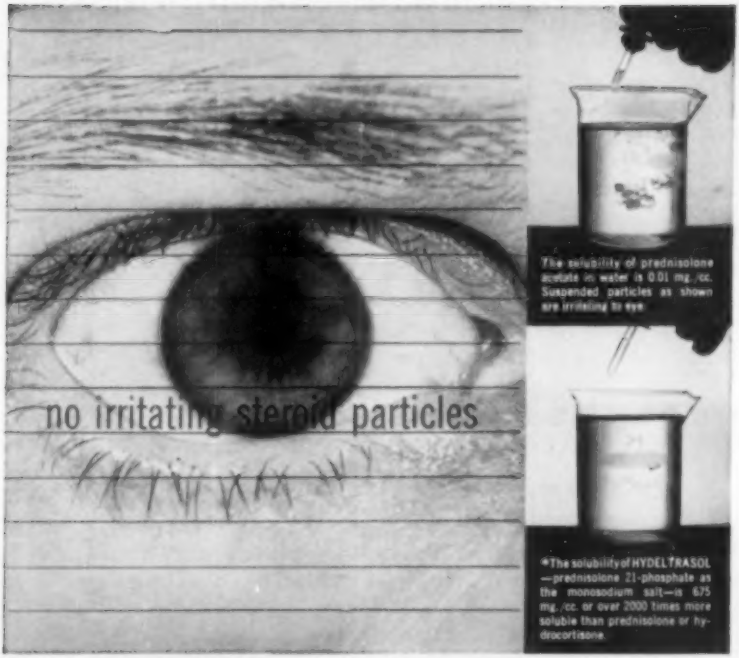
Supplied: No. 817 — Bottles of 100 and 1,000 capsules

"BEMINAL"® FORTE

Therapeutic B Factors with Vitamin C

Ayerst Laboratories • New York 16, N. Y. • Montreal, Canada

5870



STERILE OPHTHALMIC SOLUTION

NEO-HYDELTRASOL®

(prednisolone 21-phosphate with neomycin sulfate)

2000 times more soluble than prednisolone or hydrocortisone*

- free of any particulate matter capable of injuring ocular tissues.
- uniformly higher effective levels of prednisolone.

SUPPLIED: Sterile Ophthalmic Solution NEO-HYDELTRASOL 0.5% (with neomycin sulfate) and Sterile Ophthalmic Solution HYDELTRASOL 0.5%. In 5 cc. and 2.5 cc. dropper vials. Also available as Ophthalmic Ointment NEO-HYDELTRASOL 0.25% (with neomycin sulfate) and Ophthalmic Ointment HYDELTRASOL 0.25%. In 3.5 Gm. tubes.

HYDELTRASOL and NEO-HYDELTRASOL are trade-marks of Merck & Co., Inc.

MSD

MERCK SHARP & DOHME
Division of MERCK & CO., Inc.
Philadelphia 1, Pa.

for depression

▲Deprol▲†

Clinically confirmed in over 2,500 documented case histories[1,2]

CONFIRMED EFFICACY

Deprol

- ► acts promptly to control depression *without* stimulation
- ► restores natural sleep and reduces depressive rumination and crying

DOCUMENTED SAFETY

Deprol is unlike amine-oxidase inhibitors

- ► does not adversely affect blood pressure or sexual function
- ► no excessive elation; no liver toxicity

Deprol is unlike central nervous stimulants

- ► does not cause insomnia or depress appetite
- ► no amphetamine-like jitteriness; no depression-producing aftereffects

Dosage: Usual starting dose is 1 tablet q.i.d. When necessary, this dose may be gradually increased up to 3 tablets q.i.d.

Composition: Each tablet contains 400 mg. meprobamate and 1 mg. 2-diethylaminoethyl benzilate hydrochloride (benactyzine HCl).

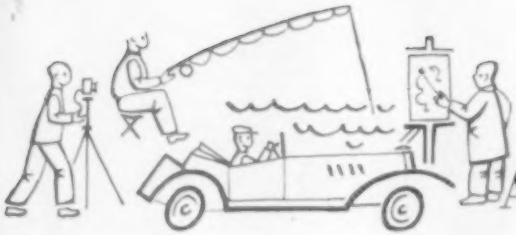
Supplied: Bottles of 50 scored tablets.

1. Alexander, L.: Chemotherapy of depression—Use of meprobamate combined with benactyzine (2-diethylaminoethyl benzilate) hydrochloride. J.A.M.A. 166:1019, March 1, 1958.
2. Current personal communications; in the files of Wallace Laboratories.

Literature and samples on request

WALLACE LABORATORIES, *New Brunswick, N. J.*

†TRADE-MARK 60-2670

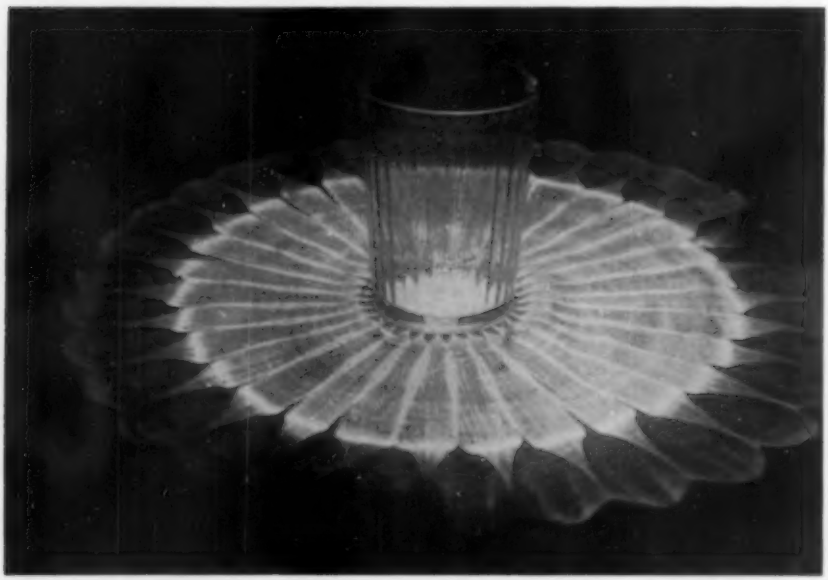


AFTER HOURS

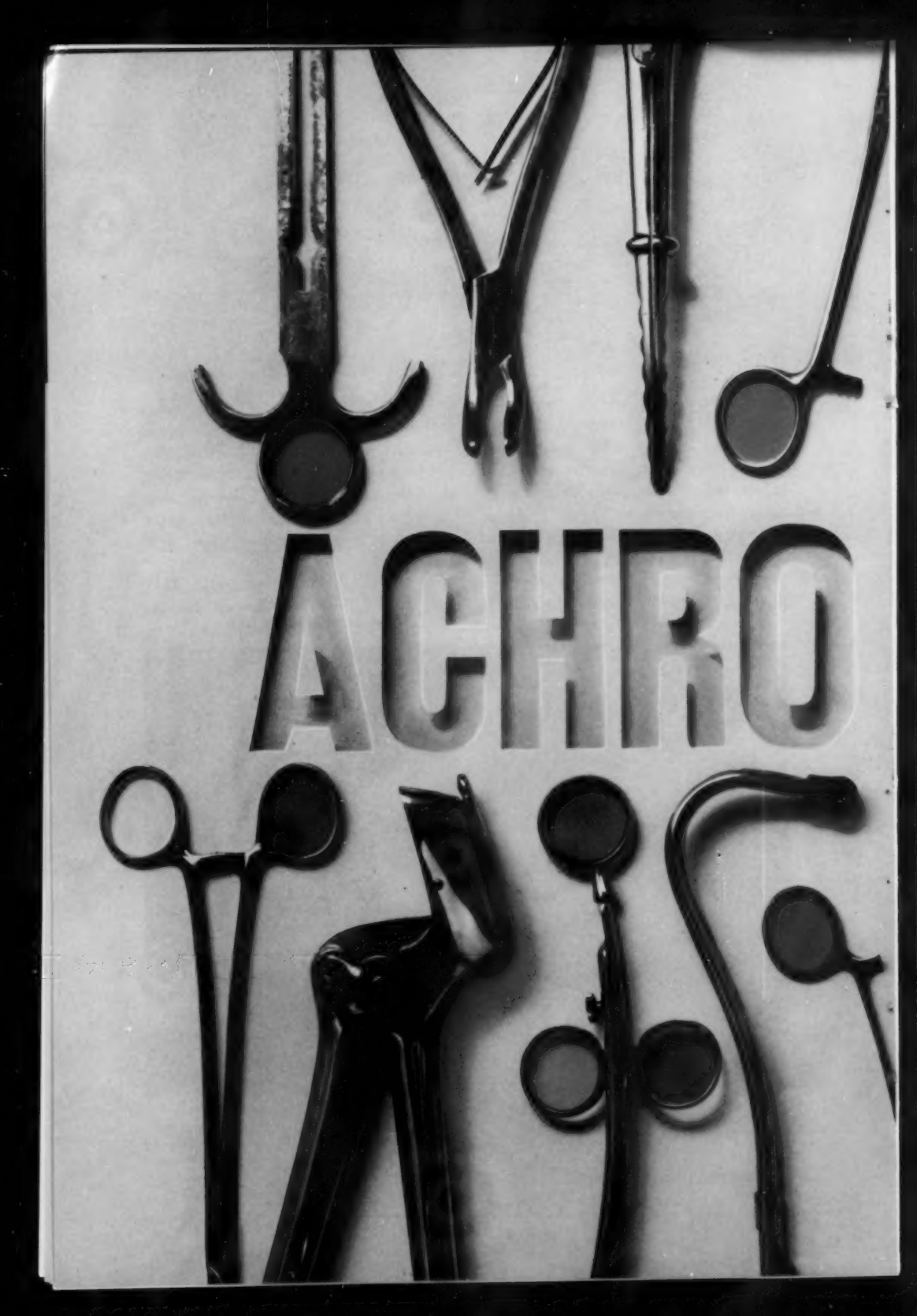
Like many other physicians, photography is a hobby I very much enjoy. It has many different intriguing facets; for example, color slides, movies, making movie titles, and producing the annual Christmas cards.

Another facet which I have enjoyed, which is perhaps a bit more unusual, is photographing glassware. Interesting flower-like patterns can be produced by holding a flashlight a couple of inches directly above the mouth of the glass. The rays can be focused so that they produce petal-like shadows surrounding the glass in the center. These are then photographed using a long-time exposure. An example is shown below.

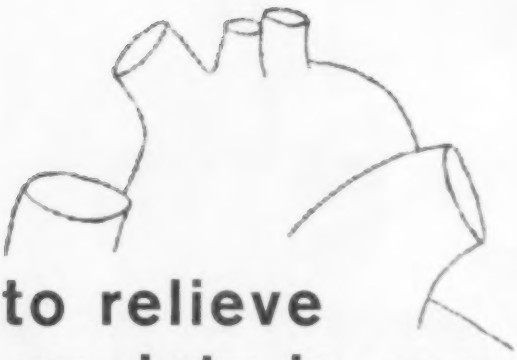
T. H. Ebbinghouse, M.D.
Richmond, Indiana



Photographs with brief description of your hobby will be welcomed. A beautiful imported German apothecary jar will be sent to each contributor.


ACHRO


MYCIN® V
Tetracycline with Citric Acid LEDERLE
Lederle
LEDERLE LABORATORIES
a Division of AMERICAN CYANAMID COMPANY
Pearl River, New York



to relieve anxiety in your cardiac patients

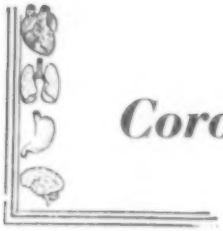
A single 'COMPAZINE' SPANSULE capsule provides daylong protection against the emotional stress that may play an exacerbating role in coronary insufficiency and other cardiovascular conditions. Also, hypotensive effects are minimal and infrequent.

COMPAZINE* SPANSULE†

THE OUTSTANDING TRANQUILIZER IN THE UNIQUE SUSTAINED RELEASE DOSAGE FORM • Also available: Tablets, Ampuls, Multiple dose vials, Suppositories and Syrup.

Smith Kline & French Laboratories, Philadelphia

*T.M. Reg. U.S. Pat. Off. for prochlorperazine, S.K.F. †T.M. Reg. U.S. Pat. Off. for sustained release capsules, S.K.F.



Coroner's Corner

A beautiful imported German apothecary jar will be sent to each contributor of an unusual case report.

An eighteen-year-old girl had had some family trouble and after staying out late at night decided to sleep in the family car in the garage. Being winter and cold she ran the motor of the car, closed all the windows, and turned on the heater. She was discovered early next morning with advanced rigor mortis. The coroner asked me to perform an autopsy. Two hours after the body was discovered the temperature was above 109°F. It was stated that the interior of the car was extremely hot.

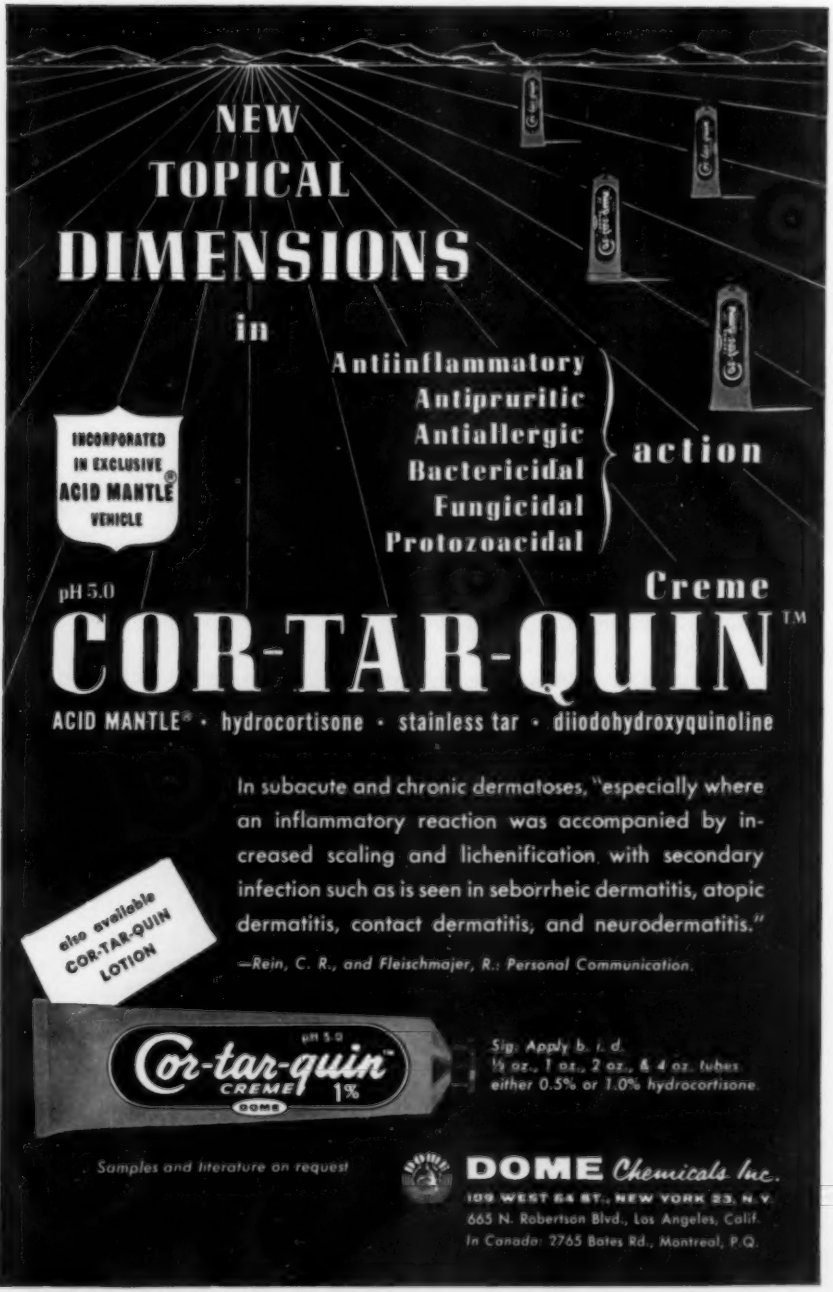
The body showed maceration of the skin and the tissues were of a parboiled appearance. The blood was a dark purple in color, almost black. The characteristic cherry red color of carbon monoxide poisoning was absent. There was pulmonary edema and petechial hemorrhages of lungs and heart.

Analysis of the blood from right and left ventricles revealed a level of 65% carbon monoxide in the right side and 75% in the left side. Prior to these results death had been believed to be due to asphyxia and hyperthermia.

In view of the lack of characteristic color of carbon monoxide poisoning specimens of oxalated blood were taken from healthy individuals. One batch was heated to 110°F and the other left at room temperature. Both batches were subjected to carbon monoxide from a car exhaust. The heated blood did not change color, the unheated became cherry red. After subjecting the unheated blood to a temperature of 110°F it changed from cherry red to dark purple.

This case served to illustrate that the cherry red color of carbon monoxide poisoning is absent in blood subjected to hyperthermia and indicated in this case that death was due to carbon monoxide poisoning, and that the hyperthermia was post mortem.

JOSEPH BELLAMY, M. D.
Hudson, New York


NEW
TOPICAL
DIMENSIONS
in
Antiinflammatory
Antipruritic
Antiallergic
Bactericidal
Fungicidal
Protozoacidal
action
INCORPORATED IN EXCLUSIVE ACID MANTLE® VEHICLE
pH 5.0
Creme
COR-TAR-QUIN™
ACID MANTLE® · hydrocortisone · stainless tar · diiodohydroxyquinoline
In subacute and chronic dermatoses, "especially where an inflammatory reaction was accompanied by increased scaling and lichenification with secondary infection such as is seen in seborrheic dermatitis, atopic dermatitis, contact dermatitis, and neurodermatitis."
—Rein, C. R., and Fleischmajer, R.: Personal Communication.
also available COR-TAR-QUIN LOTION
pH 5.0
Cor-tar-quin™
CREME
1%
DOME
Sig: Apply b. i. d.
½ oz., 1 oz., 2 oz., & 4 oz. tubes either 0.5% or 1.0% hydrocortisone.
Samples and literature on request
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109 WEST 64 ST., NEW YORK 23, N.Y.
665 N. Robertson Blvd., Los Angeles, Calif.
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original silhouette head cut by Machi

PRELUDIN®

(brand of phenmetrazine hydrochloride)

specifically for weight reduction

PRELUDIN "...appears to be a...valuable adjunct to the dietary management of obesity,"[1] and is an anorexiant of choice in complicated as well as simple cases. **In obese diabetics,** therapy with PRELUDIN provides weight losses of from 1 to 2½ pounds weekly.[2,3] With weight reduction insulin can usually be reduced[4]...even discontinued.[5] **In obese cardiac and hypertensive patients,** PRELUDIN is a potent anorexiant with no significant action on pulse rate, heart rhythm or blood pressure.[2,5,6] Response is also notable in **obese children,**[7,8] **obstetrical**[8] and **menopausal**[7] patients. According to Martel,[7] PRELUDIN "...is...well tolerated, even by children. It is in general free of...toxic effect. It does not cause the excitement accompanied by fear and trembling that we often observe with amphetamine."

(1) Feldman, R., Alberton, C. E., and Craig, L.: California Med. **87**:408, 1957. (2) Barnes, R. H.: J.A.M.A. **166**:898 (Feb. 22) 1958. (3) Ressler, C.: J.A.M.A. **165**:135 (Sept. 14) 1957. (4) Rabillard, A.: Canad. M.A.J. **76**:938 (June 1) 1957. (5) Joncas, F., and Bissonnette, J.: Union méd. Canada **86**:662, 1957. (6) Kissonnire, C.: Presse méd. **63**:1122, 1955. (7) Martel, A.: Canad. M.A.J. **76**:117 (Jan. 15) 1957. (8) Weill, J., and Bernfeld, J.: Presse méd. **65**:1401, 1957. (9) Birnberg, C. H., and Abitbol, M. M.: Obst. & Gynec. **11**:463, 1958.

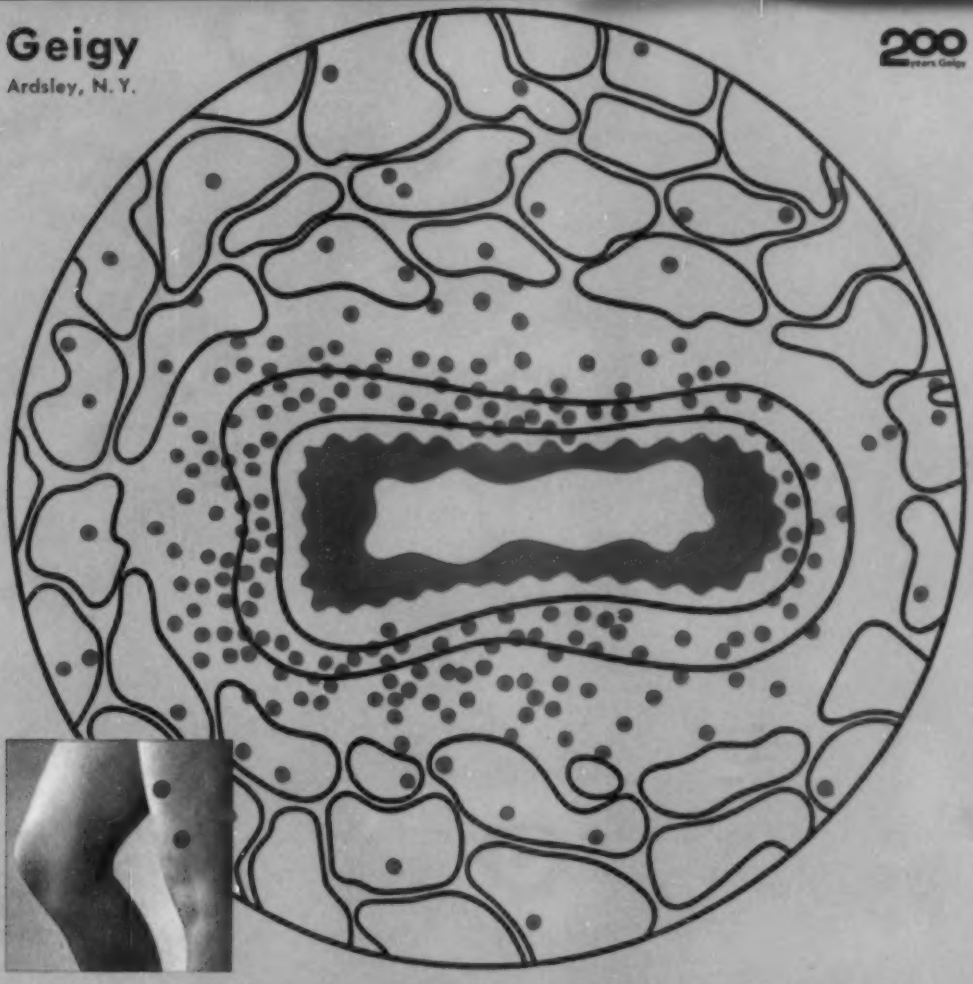
GEIGY
ARDSLEY, N. Y.

PRELUDIN® (brand of phenmetrazine hydrochloride). Scored, square, pink tablets of 25 mg. Under license from C. H. Boehringer Sohn, Ingelheim.

47484

Geigy
Ardsley, N. Y.

200 years Geigy



in Acute Superficial Thrombophlebitis

pain relieved rapidly... inflammation resolved early...

Butazolidin®

potent • nonhormonal • anti-inflammatory

(phenylbutazone Geigy)

According to Stein and Rose,[1] Butazolidin produces a rapid and satisfactory effect in acute superficial thrombophlebitis.

In this disabling disorder, Butazolidin usually provides prompt relief from pain—often complete within 24 hours or less.[2,3] This is generally accompanied by early reduction of fever together with regression of local heat, tenderness and swelling.[2,4,5] Complete resolution of inflammation is commonly seen by the fourth day.[6]

Butazolidin makes early ambulation possible. This rapid response—as a rule within 24 hours—greatly reduces incapacitation, thus avoiding undue economic loss for patients. In most cases, only three to seven days' treatment is required.[2,6]

BUTAZOLIDIN® (phenylbutazone Geigy): Red coated tablets of 100 mg. BUTAZOLIDIN® Alka: Capsules containing BUTAZOLIDIN (phenylbutazone Geigy) 100 mg.; aluminum hydroxide 100 mg.; magnesium trisilicate 150 mg.; homatropine methylbromide 1.25 mg.

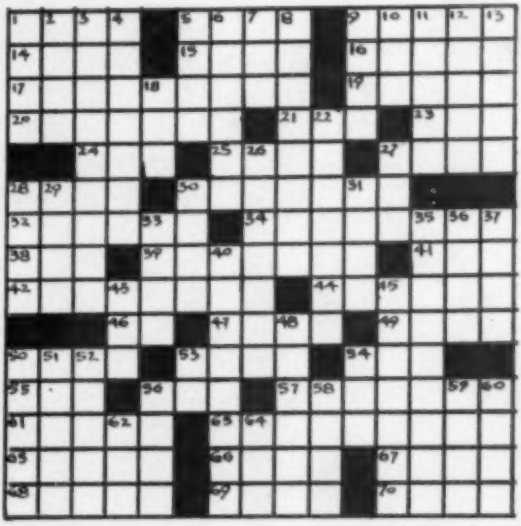
(1) Stein, I. D., and Rose, O. A.: A.M.A. Arch. Int. Med. 93:899, 1954. (2) Stein, I. D.: Circulation 12:833, 1955. (3) Potvin, L.: Bull. Assoc. méd. lang. franç. Canada 85:941, 1956. (4) Sigg, K.: Angiology 8:44, 1957. (5) Elder, H. H. A., and Armstrong, J. B.: Practitioner 178:479, 1957. (6) Braden, F. R.; Collins, C. G., and Sewell, J. W.: J. Louisiana M. Soc. 109:372, 1957.

BU976

Medical Teasers

A Challenging Crossword Puzzle for the Physician

(Solution on page 164a)



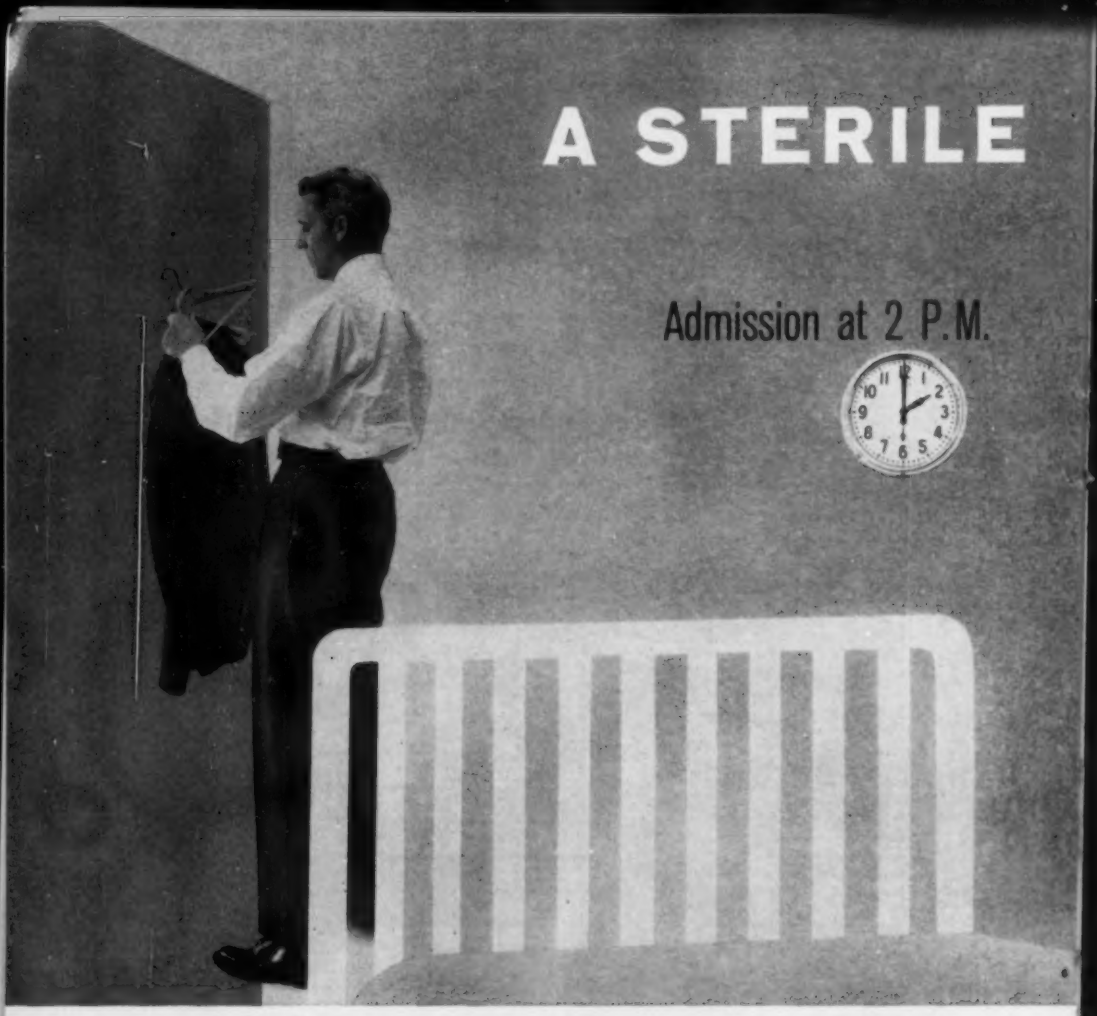
by Alan A. Brown

ACROSS

1. Conveys blood toward the heart
5. A color
9. Ejects
14. Skin disease
15. One of the Great Lakes
16. Fruit of Citrus Limonia
17. Junctions of the arms and trunk
19. Active principle of a drug
20. Tendency toward aortic disease
21. Metallic element
23. Derivative (abbr.)
24. Colloid in gelatinous form
25. Anatomical passageway
27. Leg covering
28. Winglike (adj.)
30. Keeping account
32. Mass of lymphoid tissue at back of mouth
34. A base or support
38. Oxygen, carbon, iodine (abbr.)
39. Asexual spores
41. Economics (abbr.)
42. Pertaining to micro-organisms
44. Inflammation following a burn
46. Upon
47. Tranquil
49. European Juniper tree
50. Large bundle
53. Bottom of the foot
54. Private retreat
55. Suffer remorse
56. Decay
57. Vending
61. Dwelling place of the dead (myth.)
63. One who initials
65. Evergreen shrub
66. Midday
67. National League of Nursing Education
68. Slumbered
69. Girl's name
70. Flows slowly

DOWN

1. Vessels
2. Repetition of a sound
3. Having no organs
4. Sexless (pl.)
5. Couch (pl.)
6. Pertaining to uremia
7. Kind of tree
8. Suppurated superficially
9. Dash
10. Humans
11. Prefix denoting presence of group NH in a compound
12. Books
13. Trap
18. Girl's name
22. Very hard white metal
26. Local
27. Mercuric sulfide
28. Ultimate particle of a molecule
29. Locality (pl.)
30. Untidy person
31. Close
33. An image
35. A mild form of tetany
36. Not alkali
37. Fail to win
40. Tobacco leaf alkaloid
43. Fish eggs
45. North Atlantic island
48. Pathological alteration of tissue
50. Alloy of copper & zinc
51. Pertaining to the ear
52. Withdraw
53. In like manner
54. SSI (Roman)
56. Person of stunted growth
58. Vessel to heat liquids
59. New England (abbr.)
60. Sandstone
62. Fleshy fold at orifice of mouth
64. Bow



for intestinal antisepsis... **NEOT**

NEOTHALIDINE *provides fast, effective bowel sterilization.* It affords broad antibacterial activity in a concentrated, non-absorbed dosage form. By reducing gas-producing organisms, NEOTHALIDINE provides a non-inflated, easy-to-handle bowel. It is effective in the presence of food and other organic substances, and aids in the mechanical cleansing of the bowel.

Monilial complications are not likely to occur when fast-acting NEOTHALIDINE is prescribed in the recommended dosage.

NEOMYCIN is widely used as an intestinal antiseptic because it is rapidly effective against most intestinal pathogens.

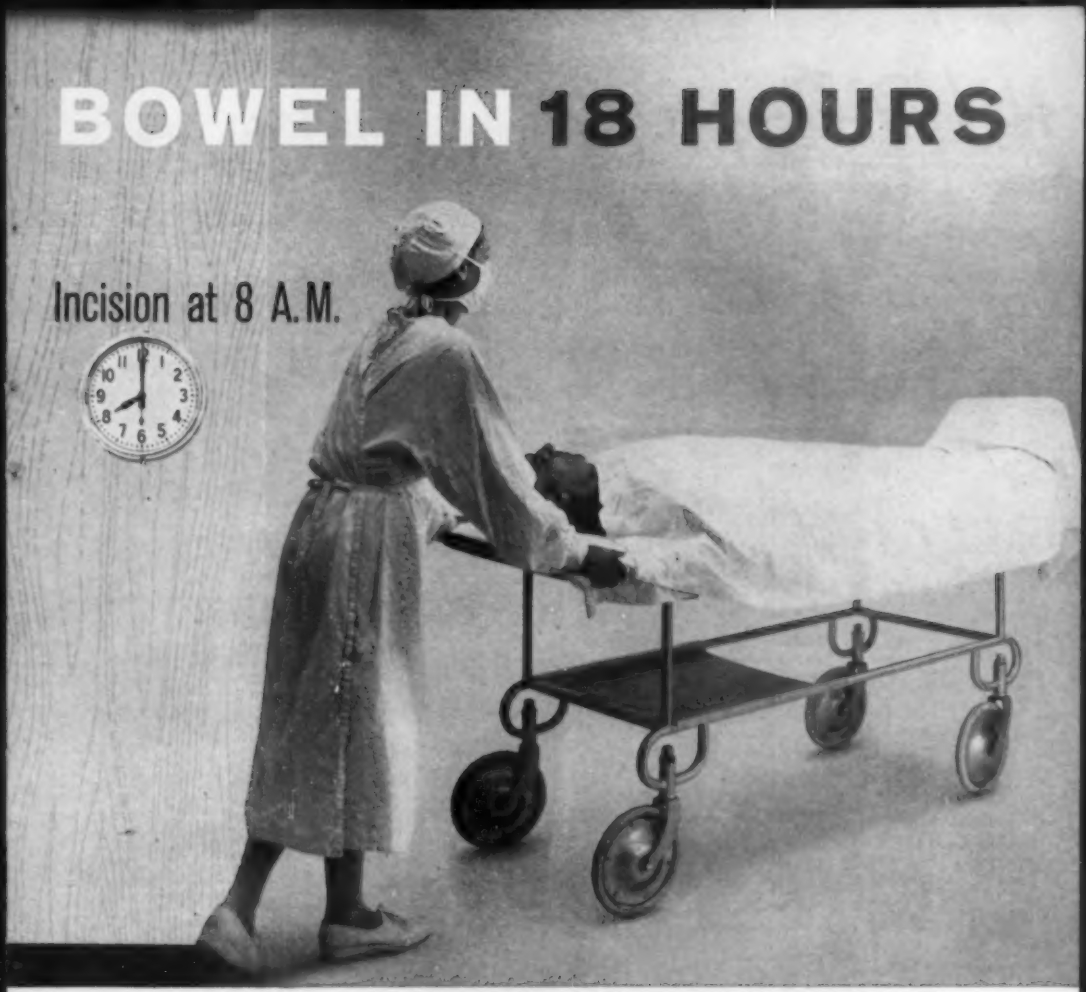
SULFATHALIDINE® (phthalylsulfathiazole) is the ideal adjunct to neomycin because of its effectiveness against Aerobacter aerogenes, Shigella, and Clostridia – organisms that are not responsive to neomycin therapy alone.

Together, as NEOTHALIDINE – *a formula that closely approaches the ideal intestinal antiseptic.*[1]

Supplied: as NEOTHALIDINE Granules in a 120-cc. dispensing bottle, to be reconstituted with water at the time of dispensing. Each bottle contains 12.0 Gm. of Sulfathalidine® (phthalylsulfathiazole) and 8.0 Gm. of neomycin sulfate (equivalent to 5.6 Gm. neomycin base).

1. Poth, E. J.: Intestinal Antisepsis in Surgery, J.A.M.A. 153:1516, Dec. 26, 1953.

BOWEL IN 18 HOURS



HALIDINE®

NEOMYCIN AND SULFATHALIDINE®

NEOMYCIN AND SULFATHALIDINE®

IT TAKES 2 TO DO THE JOB

NEOTHALIDINE and SULFATHALIDINE (phthalylsulfathiazole) are trademarks of Merck & Co., Inc.

MSD MERCK SHARP & DOHME, DIVISION OF MERCK & CO., Inc., PHILADELPHIA 1, PA.

MY DAD— HE HURT HIS BACK REAL BAD

"It happened at work while he was putting oil in something"



"He told Mom his shoulder felt like it was on fire"



"He couldn't swing a bat without hurting"



"But Doctor gave him some nice pills--and the pain went away fast"



"Dad said we'd play ball again tomorrow when he comes home"



AND THE PAIN WENT AWAY FAST

FOR PAIN

Percodan®

(Salts of Dihydrohydroxycodeinone and Homatropine, plus APC) **TABLETS**

ACTS FASTER... usually within 5-15 minutes

LASTS LONGER... usually for 6 hours or more

MORE THOROUGH RELIEF... permits uninterrupted sleep through the night

RARELY CONSTIPATES... excellent for chronic or bedridden patients

and now... **NEW**

Percodan®-Demi

VERSATILE

New "demi" strength permits dosage flexibility to meet each patient's specific needs. PERCODAN-DEMI provides the PERCODAN formula with one-half the amount of salts of dihydrohydroxycodeinone and homatropine.

AVERAGE ADULT DOSE: 1 tablet every 6 hours. May be habit-forming. Available through all pharmacies.

Each PERCODAN® Tablet contains 4.50 mg. dihydrohydroxycodeinone hydrochloride, 0.38 mg. dihydrohydroxycodeinone terephthalate, 0.38 mg. homatropine terephthalate, 224 mg. acetylsalicylic acid, 160 mg. phenacetin, and 32 mg. caffeine.

Literature? Write

Endo **ENDO LABORATORIES**
Richmond Hill 18, New York

*U.S. Pat. 2,628,190



ROCHE

a pioneer in antimicrobial therapy

now presents

MADRIBON

a new development

in the control of systemic infections

particularly those of the respiratory tract.

MADRIBON

introduces new standards

of effectiveness and tolerance

characterized by

rapid, prolonged blood levels

and a basically different metabolism.

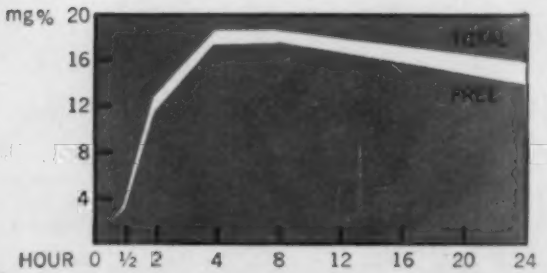
new MADRIBON



a superior chemotherapeutic agent

Rapid, prolonged blood levels

a characteristic of Madribon, assure prompt response and greater convenience of dosage.



Average blood level after administration of a single 2 Gm dose of Madribon.

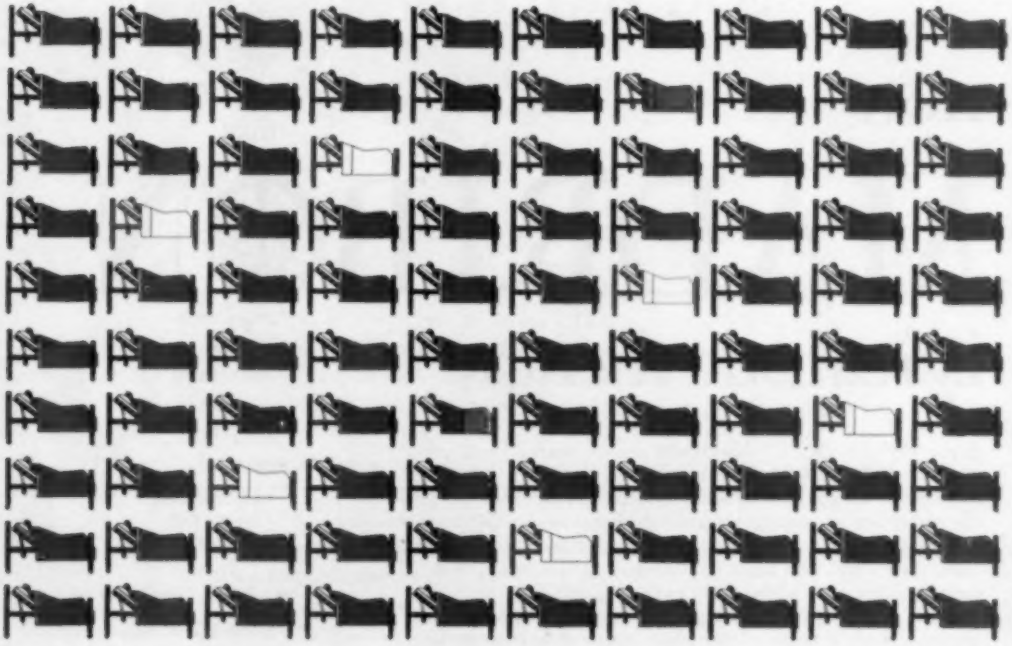
Excreted differently

Madribon differs from all previously known chemotherapeutic agents in that it is metabolized mostly as a glucuronide.



Glucuronide conjugate accounts for approximately 80 per cent of the Madribon urine level.

...already proved in 5000 patients



good or excellent response

poor response

side effects

each symbol represents 25 cases

Highly soluble

The glucuronide form of Madribon is exceptionally soluble – providing an important margin of therapeutic safety.



Solubility of Madribon in the urine: over 2000 mg/100 ml.

ROCHE

continued on next page

in systemic infections, particularly those of the upper respiratory tract

new MADRIBON is realistic therapy

- *wider spectrum*
- *safer*
- *more convenient*
- *economical*

Especially for "u.r.i." Madribon shows marked activity against a wide spectrum of gram-positive and gram-negative pathogens. Its greatest benefit, however, may well lie in the treatment of upper respiratory infections. In one representative study, "including acute pharyngitis, tonsillitis, otitis media and two cases of bacterial pneumonia...therapeutic results were satisfactory in the majority of cases with prompt defervescence and general clinical improvement together with a return of the white count to normal within two to four days."[1]

"*The use of Madribon was very simple and there were no side effects or toxic reactions.*"[2] Madribon, though new, is already backed by extensive clinical experience. Based on completed case records presently on file with the Medical Department of Roche Laboratories, the incidence of side effects (such as nausea or dizziness) is only 1.3 per cent in more than 5000 Madribon-treated patients.

Usual Dosage (for mild to moderate infections):

ADULTS: 2 tablets (4 teaspoonfuls) initially followed by 1 tablet (2 teaspoonfuls) daily thereafter.

CHILDREN:	*Initially*	*Every 24 hours*
20 pounds	1 teaspoonful (¼ tablet)	½ teaspoonful (⅛ tablet)
40 pounds	2 teaspoonfuls (1 tablet)	1 teaspoonful (¼ tablet)
80 pounds	4 teaspoonfuls (2 tablets)	2 teaspoonfuls (1 tablet)

Therapy should be continued for 5 to 7 days or until patient is asymptomatic for at least 48 hours.

Packages:

TABLETS: 0.5 Gm, double scored, monogrammed, gold colored—bottles of 30, 250 and 1000.

SUSPENSION: 0.25 Gm/teasp. (5 cc), custard flavored—bottles of 4 oz and 16 oz.

MADRIBON™—2,4-dimethoxy-6-sulfanilamido-1,3-diazine

1. S. Ross, Paper read at the Sixth Annual Antibiotic Symposium, Washington, D.C., Oct. 15-17, 1958.

2. W. A. Leff, Paper read at the New Jersey Chapter of the Am. Fed. Clin. Res., Newark, Sept. 17, 1958.

ROCHE LABORATORIES • Division of Hoffmann-La Roche Inc • Nutley • N.J.

ROCHE—REG. U.S. PAT. OFF.



Who Is This Doctor?

Born in 1728, the youngest of ten children, he became, like his brother William, one of the great figures in British medicine.

At 20, he went to work in the dissecting room of his brother, who was the leading anatomist of his day. Among his discoveries were a demonstration of the branches of the olfactory nerves, the branches of the fifth nerve, the course of the arteries in the gravid uterus and the presence of lymphatic vessels in birds. He performed, when he was a surgeon, the first high operation for aneurysm of the popliteal artery.

He became a surgeon's pupil in St. George's Hospital and, in 1756, house surgeon. He went to Oxford but quit in two months at the prospect of studying Latin and Greek, protesting that "they tried to make an old lady of me." He never had a formal education.

He started each day's work at 6 A.M. and worked at fever pitch. He was married at 8 in the morning because he could not fit the marriage ceremony into any other part of his day. He experimented in every possible field, writing papers on the bones of birds, the gillaroo trout, digestion of food in the stomach after death.

His lectures were brilliant in content but poor in delivery and radical in viewpoint. He told his surgical students that surgery was inferior to medicine because it was a last resort, yet it was he who single-handedly converted surgery from a trade to a science based on knowledge of every biological process. He was a man of furious temper and stubborn conviction. Many of his manuscripts were burned after his death because of the newness of his ideas.

He experimentally inoculated himself with syphilis and treated it as gonorrhea, believing, like others, that the two were the same. His weakened condition did not survive one of his rages and he fell dead in a hospital board meeting at St. George's in 1793.

Of his students, Sir William Blizard founded a private school that became the London Hospital Medical School, Philip Syng Physick became the first full professor of surgery at the U. of Pennsylvania and Edward Jenner ended the menace of smallpox.

Fifty years after burial, he was reinterred in Westminster Abbey.

(Answer on page 190a)



Serpasil® offers 2 special advantages for hypertensive patients, report St. Paul clinicians

Physicians in St. Paul, Minnesota, find these actions of Serpasil desirable for many hypertensive patients:

1. Serpasil relieves the tachycardia that so often accompanies high blood pressure.

2. Serpasil has a rather pronounced central effect which is beneficial when hypertension is associated with frank anxiety or tension.

The experience of 450 physicians throughout the U.S. (interviewed during the course of a world-wide survey*) illustrates these advantages. Excellent or good overall response was reported in 74 per cent of 871 patients who received Serpasil for hypertension *with anxiety-tension;* 80 per cent excellent or good response was reported in 261 patients who were treated with Serpasil for tachycardia.

If your hypertensive patient exhibits marked anxiety-tension—or if his heart rate is up—why not give him the extra benefit of Serpasil therapy?

CIBA

SERPASIL® (reserpine CIBA) SUMMIT, N. J.

*Complete information about the results of this survey will be sent on request.

R/2500MB



before...

Engran

SQUIBB VITAMIN-MINERAL SUPPLEMENT

just *one* Engran tablet daily helps to assure a nutritionally perfect pregnancy—at real savings to the patient



Each small capsule-shaped tablet provides:

Vitamin A	5,000 U. S. P. Units
Vitamin D	500 U. S. P. Units
Vitamin K (as menadione)	0.5 mg.
Thiamine Mononitrate	3 mg.
Riboflavin	3 mg.
Pyridoxine HCl	2 mg.
Vitamin B_{12} Activity Concentrate	2 mcg.
Folic Acid	0.25 mg.
Niacinamide	20 mg.
Calcium Pantothenate	5 mg.
Ascorbic Acid	75 mg.
Calcium, elemental (as calcium carbonate 375 mg.)	150 mg.
Iron, elemental (as ferrous sulfate exsiccated, 33.6 mg.)	10 mg.
Iodine, elemental (as potassium iodide, 0.2 mg.)	0.15 mg.
Potassium (as the sulfate)	5 mg.
Copper (as the sulfate)	1 mg.
Magnesium (as the oxide)	6 mg.
Manganese (as the sulfate)	1 mg.
Zinc (as the sulfate)	1.5 mg.

Supply: Bottles of 100 and 1000. Also, Engran Term-Pak provides 270 tablets—enough to last until term, and then some—in a handsome reusable glass jar.

and after...

Engran baby drops

SQUIBB MULTIPLE VITAMIN BABY DROPS



for infants and children up to 4 years of age

pleasant-tasting *full* vitamin support • in *half* the volume • lasts *twice* as long



Each 0.3 cc. of Engran Baby Drops contains:

Vitamin A	2500 Units
Vitamin D	500 Units
Thiamine	0.6 mg.
Riboflavin	1 mg.
Nicotinamide	6 mg.
Vitamin C	35 mg.
Pyridoxine HCl	1 mg.
d-Panthenol	2.5 mg.
Vitamin B_{12}	3 mcg.

Supply: 15 cc. and 50 cc. bottles. Convenient Flexi-dose dropper assures accurate dosage of 0.3 cc.

'Engran'® 'Term-Pak' and 'Flexidose' are Squibb trademarks.

SQUIBB

Squibb Quality—the Priceless Ingredient

growing clinical testimony

1956

(1) Miller, E. W., Jr.: New York J. Med. 56:1446, 1956.

1957

(2) Garnes, A. L., and Barnard, R. D.: Angiology 8:13, 1957. (3) Morrison, J. E., and Casali, J. L.: Am. J. Surg. 93:446, 1957. (4) Miller, J. M.; Godfrey, G. C.; Ginsberg, M., and Papastrat, C. J.: Postgrad. Med. 22:609, 1957.

1958

(5) Katz, R. I.; Reese, J. W., and Byrne, J. J.: Am. J. Surg. 95:102, 1958. (6) Carpenter, E. B.: Virginia M. Month. 85:22, 1958. (7) Wood, O. H.: Maryland M. J. 7:265, 1958. (8) Burke, J. E., and Golden, T.: Am. J. Surg. 95:828, 1958. (9) Miller, J. M.: Surgery 44:939, 1958. (10) Carter, C. H., and Maley, M. C.: M. Times, in press.

on a unique debriding-healing agent

Panafil® OINTMENT

The increasing body of clinical evidence proves PANAFIL Ointment singularly effective in the treatment of chronic and infected wounds and ulcers.

All investigators[1-10] agree that PANAFIL produces and maintains a clean wound base and encourages normal healing. Local infection, even in cases resistant to previous antibiotic therapy, is consistently reported to be controlled effectively by PANAFIL alone.

The rapid, clean healing observed with PANAFIL therapy results from a unique combination of ingredients:

- **Papain**, the proteolytic enzyme—digests necrotic tissue and liquefies exudate without harm to healthy tissue—eliminates local infection by removing the bacteria-supporting substrate.
- **Urea**, the protein-solvent—augments the debriding action of papain by exposing protein substrates to complete proteolysis.
- **Chlorophyll Derivatives** (water soluble)—control inflammation by protecting viable tissue from the effects of protein breakdown products—encourage normal healing, reduce necessity for skin grafting.

PACKAGING: Available *on prescription only* in 1-oz. and 4-oz. tubes.

Panafil for local treatment of wounds and ulcers

Rystan company · MOUNT VERNON, NEW YORK

20888



TARGET ACTION

specifically on the large bowel

FOR EASIER ELIMINATION

DORBANE®

(1,8 dihydroxyanthraquinone)

selective peristaltic stimulant

■ **smooth, overnight action** ■ **no griping** ■ **well tolerated, non-habituating**

Available in 75 mg. scored tablets and suspension.

WHERE STOOL SOFTENING IS ALSO INDICATED

DORBANTYL® FORTE

(Dorbane, 50 mg. + dioctyl sodium sulfosuccinate, 100 mg.)*

Double strength capsules for maximum economy and convenience.

DORBANTYL®

(Dorbane, 25 mg. + dioctyl sodium sulfosuccinate, 50 mg.)*

For lower dosage and in children.

Available in capsules and suspension.

***In proportions proved optimal by clinical trial.**

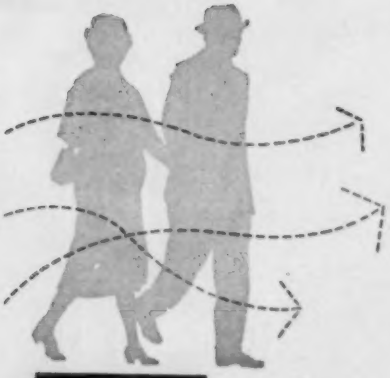
(Marks, M. M.: Clin. Med. 4:151, 1957)

SchenLabs

SchenLabs Pharmaceuticals, Inc., New York 1, N.Y.

Manufacturers of Neutrapen® for penicillin reactions.

® Trademarks Reg. U.S. Pat. Off. Dorbantyl formula patented. 8d150





Vita-Metrazol

A mood conditioner where apathy is the dominating symptom.

TABLETS and ELIXIR

Combining Metrazol with selected vitamins.

Usual Dose: One or two tablets or teaspoonfuls three or four times daily.

Metrazol®, brand of Pentylenetetrazol, E. Bilhuber, Inc.

KNOLL PHARMACEUTICAL COMPANY
Orange, New Jersey

LETTERS
To The Editor

This department is offered as an Open Forum for the discussion of topical medical issues. All letters must be signed. However, to protect the identity of writers who are invited to comment on controversial subjects, names will be omitted when requested.

Huggins Hospital

Many of us I'm afraid, tend to think of the rural or small-town hospital as a kind of outpost of medicine where only the simpler procedures can be handled. And this is probably true in many cases.

But that stereotype was shattered for me by Dr. Ralph Adams' most interesting article ("Research in Non-University Hospitals") in the September issue of MEDICAL TIMES.

When you consider that Wolfeboro, New Hampshire, has a population of only 1500, the accomplishments of Dr. Adams and his staff are astounding. I refer to the various clinical studies, the acquisition of an artery and bone bank, the use of radio-isotopes in diagnosis.

It takes a topnotch physician (or group of physicians) to bring about such results.

I have vacationed in New Hampshire a number of times, once in Wolfeboro. I recall Huggins Hospital, an attractive building near the center of town. If I'd known about the interesting programs going on there, you can be sure I would have stopped by to meet Dr. Adams.

M.H., M.D.
N.Y., N.Y.

nutritional therapy *in convalescence*







to accelerate convalescence...

Sustagen®

Complete food, Mead Johnson
powder

Builds tissue, promotes well-being, enhances rehabilitation

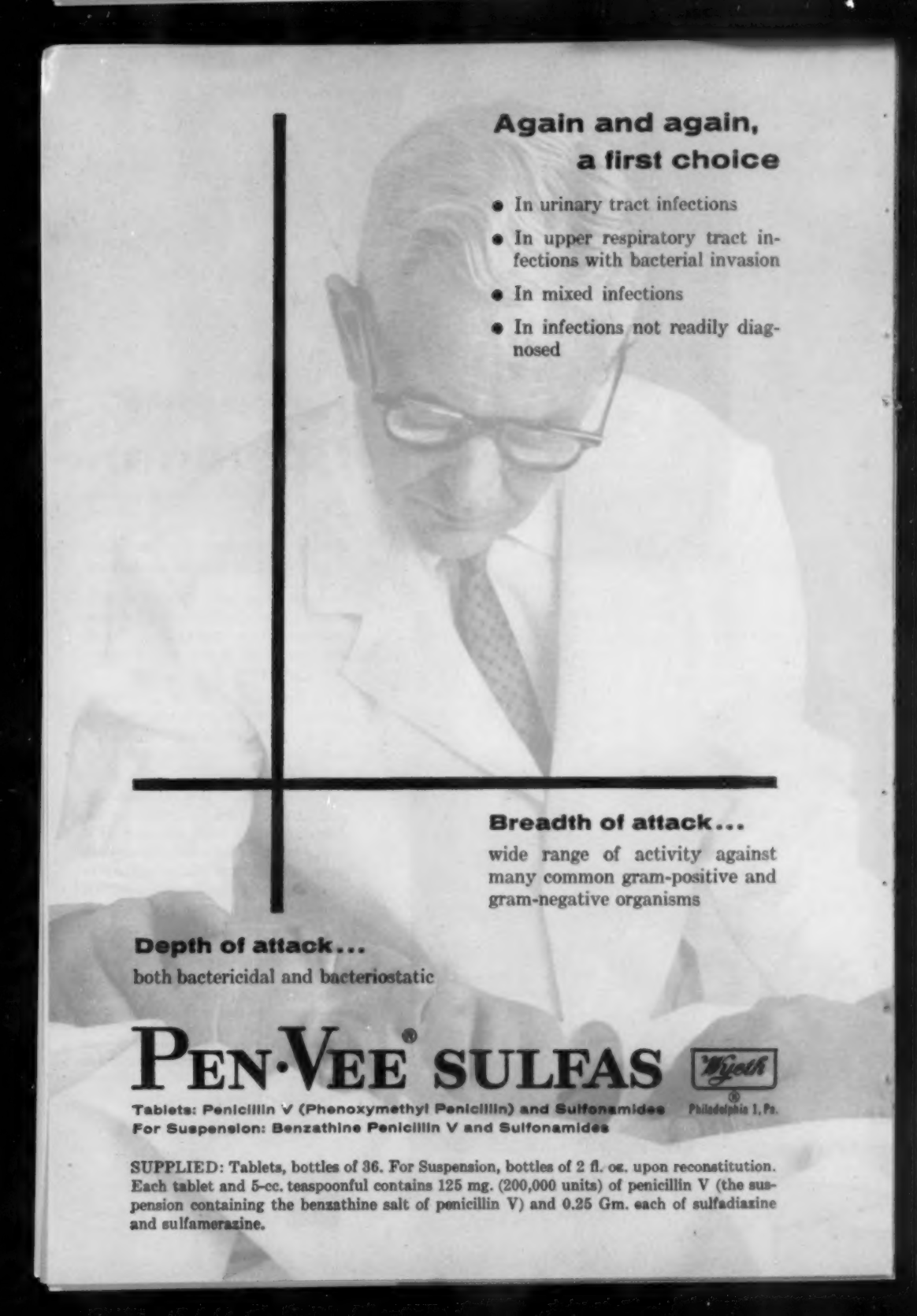
Specific treatment may vary infinitely in details, but one factor remains constant—the urgent need of every seriously ill patient for *therapeutic nutrition.*

With Sustagen you can give your patients extra nutritional reserves which they need to withstand both medical and surgical crises and debilitating diseases.

Sustagen in itself is a balanced diet and can be given by mouth or by tube. It can be used alone or as a supplement to the diet, for short term or prolonged nutritional therapy. Sustagen supplies every known essential nutrient for maintenance or rehabilitation.

Detailed information on the use of Sustagen in many clinical conditions is provided in the booklet "Nutritional Therapy: The Use of Food in the Management of Illness and Injury." Your Mead Johnson Representative will gladly supply you with a copy...or you may write to us, Evansville 21, Indiana.

Mead Johnson
Symbol of service in medicine


Again and again,
a first choice
• In urinary tract infections
• In upper respiratory tract infections with bacterial invasion
• In mixed infections
• In infections not readily diagnosed
Breadth of attack...
wide range of activity against many common gram-positive and gram-negative organisms
Depth of attack...
both bactericidal and bacteriostatic
PEN·VEE® SULFAS
Wyeth®
Philadelphia 1, Pa.
Tablets: Penicillin V (Phenoxymethyl Penicillin) and Sulfonamides
For Suspension: Benzathine Penicillin V and Sulfonamides
SUPPLIED: Tablets, bottles of 36. For Suspension, bottles of 2 fl. oz. upon reconstitution. Each tablet and 5-cc. teaspoonful contains 125 mg. (200,000 units) of penicillin V (the suspension containing the benzathine salt of penicillin V) and 0.25 Gm. each of sulfadiazine and sulfamerazine.

PREVENT
both cause and fear of
ANGINA ATTACKS

proven safety for long-term use



Miltrate*

NEW DOVETAILED THERAPY COMBINES IN ONE TABLET

prolonged relief from anxiety and tension with **MILTOWN*** — The *original* meprobamate, discovered and introduced by Wallace Laboratories

\+

sustained coronary vasodilation with **PETN** — pentaerythritol tetranitrate a leading, long-acting nitrate

"In diagnosis and treatment [of cardiovascular diseases] . . . the physician must deal with both the emotional and physical components of the problem simultaneously."[1]

The addition of Miltown to PETN, as in Miltrate,"...appears to be more effective than [PETN] alone in the control of coronary insufficiency and angina pectoris."[2]

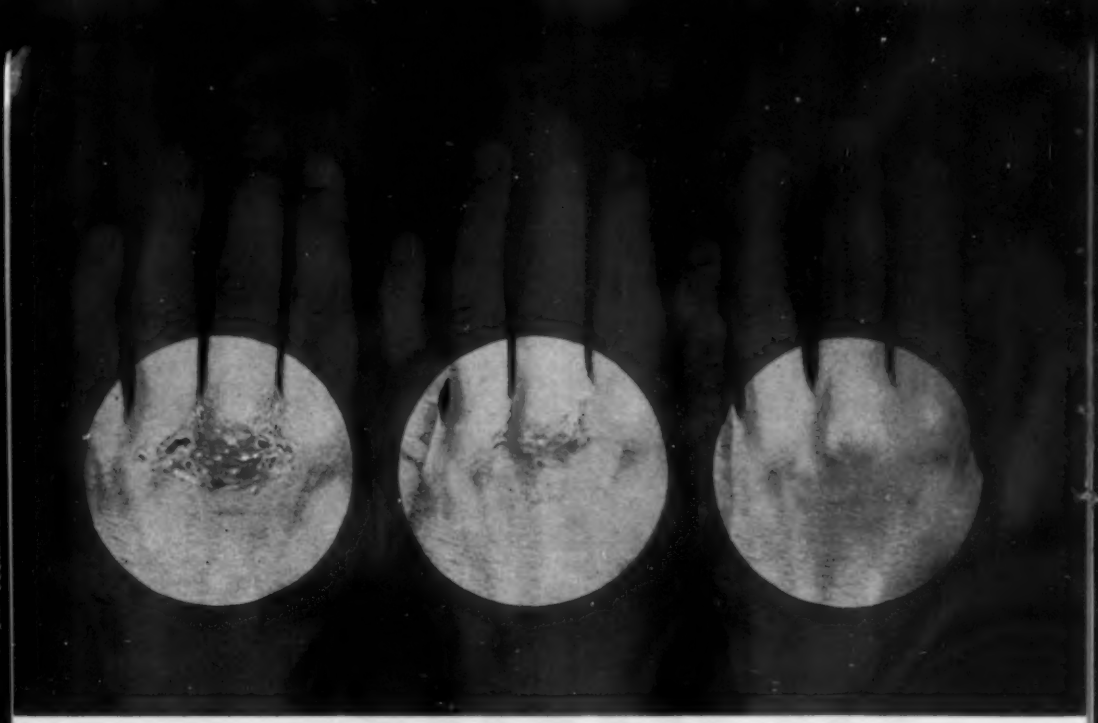
Miltrate is recommended *for prevention* of angina attacks, *not for relief* of acute attacks.

Supplied: Bottles of 50 tablets.
Each tablet contains: 200 mg. Miltown + 10 mg. pentaerythritol tetranitrate.
Usual dosage: 1 or 2 tablets q.i.d. *before meals* and at bedtime.
Dosage should be individualized. *For clinical supply and literature, write Dept. 7E*

1. *Friedlander, H. S.: The role of ataraxia in cardiology. Am. J. Card. 1:295, March 1958.*
2. *Shapiro, S.: Observations on the use of meprobamate in cardiovascular disorders. Angiology 9:504, Dec. 1957.*

WALLACE LABORATORIES, *New Brunswick, N. J.*

*TRADE MARK



you can clear topical infections promptly with

NEO-POLYCIN*

...because Neo-Polycin provides 3 preferred topical antibiotics

NEOMYCIN / BACITRACIN / POLYMYXIN

in the unique Fuzene® base which releases greater antibiotic concentrations than do ordinary grease-base ointments.

NEO-POLYCIN covers the entire range of bacteria most often found in topical lesions...has a low index of sensitivity...averts the risk of sensitization to lifesaving antibiotics, since the antibiotics used in Neo-Polycin are rarely used systemically...is miscible with blood, pus and tissue exudates without loss of efficacy.

Each gram of Neo-Polycin Ointment contains 3 mg. of neomycin, 8000 units of polymyxin B sulfate and 400 units of bacitracin in the unique Fuzene (polyethylene glycol diester) base. Supplied in 15 Gm. tubes. Also supplied as Neo-Polycin Ophthalmic Ointment (anhydrous, lanolin-petrolatum base) in ⅛ oz. tubes.

*Trademark



PITMAN-MOORE COMPANY • INDIANAPOLIS, INDIANA
DIVISION OF ALLIED LABORATORIES, INC.



Mediquiz

These questions were prepared especially for MEDICAL TIMES *by the Professional Examination Service, a division of the American Public Health Association. Answers are on page 166a.*

1. The most dangerous complication which may occur after splenectomy for congenital hemolytic anemia is:

1. Decrease in the number of white cells in peripheral blood with an increased susceptibility to infection.
2. Intravascular thrombosis due to an increase in platelets.
3. Temporary increase in the severity of the anemia.
4. Severe hemolytic crisis as a result of manipulation of the spleen.
5. A general hemorrhagic tendency due to a decrease in platelets.

2. Mixed tumors of the salivary gland type, not uncommon in the mouth, rarely occur on the:

1. Tonsillar pillars.
2. Upper lip.
3. Base of the tongue.
4. Soft palate.
5. Lower lip.

3. Plasma cell mastitis may readily be mistaken clinically for:

1. Paget's Disease of the nipple.
2. Chronic cystic mastitis.
3. Fibrosing adenomatosis.
4. Carcinoma.
5. Tuberculosis.

4. An early feature of retinitis pigmentosa is:

1. Cataracts.
2. Night blindness.
3. Gun barrel vision.
4. Retrobulbar neuritis.
5. Diplopia.

5. Of the following, pellagra is due to deficiency of:

1. Thiamine.
2. Pantothenic acid.
3. Riboflavin.
4. Nicotinic acid (niacin).

6. A 40-year-old colored male enters the hospital complaining of fever, malaise, weakness, abdominal distention, watery non-foul diarrhea and weight loss for four months. Examination reveals dehydration, disorientation, slight nuchal rigidity, lungs clear to auscultation and percussion, and a sense

—Concluded on page 73a



carrier unto himself

Once he is infected with athlete's foot, he is likely to remain a "carrier unto himself," even without re-exposure. Daily routine application of Desenex protects against reinfection and recurrence.

fast relief from itching
prompt antimycotic action
continuing prophylaxis

Desenex®
OINTMENT and SOLUTION
Buffered at pH 6.5
POWDER

Maltbie

For most effective and convenient therapy and continuing prophylaxis, use Desenex as follows:

AT NIGHT the Ointment (zincundecate) — 1 oz. tubes and 1 lb. jars.

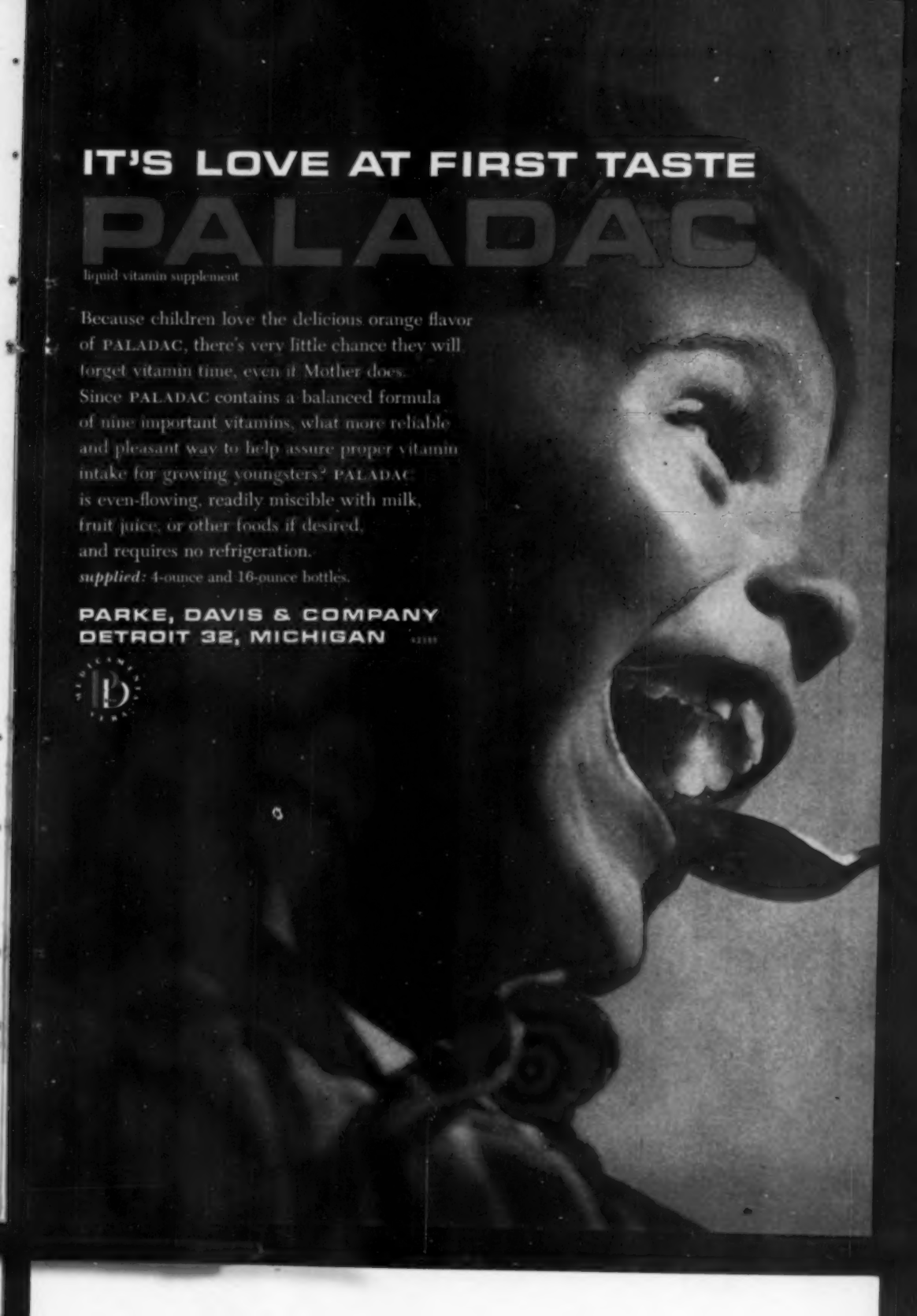
DURING THE DAY the Powder (zincundecate) — 1½ oz. and 1 lb. containers.

AFTER EVERY FOOT BATH the Solution (undecylenic acid)—2 fl. oz. and 1 pt. bottles. Use only when skin is unbroken.

In otomycosis, Desenex solution or ointment.

Write for free sample supply to Professional Service Department.

MALTBIE LABORATORIES DIVISION • WALLACE & TIERNAN, INC. • Belleville 9, N. J.
PD-71


IT'S LOVE AT FIRST TASTE
PALADAC
liquid vitamin supplement
Because children love the delicious orange flavor of PALADAC, there's very little chance they will forget vitamin time, even if Mother does. Since PALADAC contains a balanced formula of nine important vitamins, what more reliable and pleasant way to help assure proper vitamin intake for growing youngsters? PALADAC is even-flowing, readily miscible with milk, fruit juice, or other foods if desired, and requires no refrigeration.
supplied: 4-ounce and 16-ounce bottles.
PARKE, DAVIS & COMPANY
DETROIT 32, MICHIGAN

JUST AS A REMINDER

4 E.N.T. products to remember!

AURALGAN
EAR DROPS

IN ACUTE OTITIS MEDIA
SAFE AURALGESIC
AND DECONGESTANT

O-TOS-MO-SAN
BACTERICIDAL – FUNGICIDAL

BROAD-SPECTRUM
THERAPY WITHOUT
ANTIBIOTICS

RHINALGAN
NASAL SPRAY

SAFE!
"NOT JUST ANOTHER
DECONGESTANT"

LARYLGAN
THROAT SPRAY • GARGLE • SWAB

FOR INFECTIOUS
AND NON-INFECTIOUS
THROAT INVOLVEMENTS

DOHO CHEMICAL CORP., 100 VARICK ST., NEW YORK 13, N.Y.

—Concluded from page 69a

of nodulation with some tenderness within the entire abdominal cavity. White blood count is normal. Hemoglobin is 11.0 Gm./100 cc. Chest film reveals punctuate nodulation in both lung fields. After rehydration has been carried out, the one of the following which shou d *not* be done is:

1. Spinal tap.
2. Surgical exploration of the abdomen.
3. Urine culture.
4. Placement of patient on streptomycin.

7. Cortisone and corticotropin are beneficial for patients with rheumatoid arthritis because they:

1. Reduce the inflamation.
2. Cure the rheumatic process.
3. Rebuild joint cartilage.
4. Produce diabetes.

8. Of the following procedures, the one which would be most important in producing safe drinking water is:

1. Treating the reservoir with copper sulphate.
2. Chlorination.
3. Aeration.
4. Screening.

9. An intravenous pyelogram reveals complete obliteration of the renal and psoas shadows on the left side, lateral curvature of the spine with concavity to the left, and fixation of the left kidney as revealed by exposure of the film during respiration. These findings suggest:

1. Perirenal abscess.
2. Pheochromocytoma.
3. Polycystic kidney.
4. Hypernephroma.
5. Renal tuberculosis.

10. The phenomenon of "levitation" characterized by gradual involuntary rising of a limb when outstretched, with hyperextension of digits, is thought to be indicative of brain damage in the region of the:

1. Basal ganglia.
2. Parietal cortex.
3. Frontal cortex.
4. Internal capsule.
5. Red nucleus.

11. Subjects who are alive at 17 years of age with an open ductus arteriosus have a subsequent life expectancy which averages:

1. One-tenth that of the general population.
2. One-fifth that of the general population.
3. Half that of the general population.
4. Four-fifths that of the general population.
5. That of the general population.

12. Periarteritis nodosa differs from cranial arteritis in that in the latter:

1. There is a poor prognosis as to life expectancy.
2. The incidence in young women is high.
3. There is usually localized involvement of the temporal arteries.
4. There is a leukocytosis with fever.
5. No bacteria are characteristically isolated from the lesions.

announcing...oral iron under CHELATE control

■ notably effective ■ exceptionally well tolerated ■ the safest iron to have in the home ■



CHĒL-IRON

BRAND OF IRON CHOLINE CITRATE† TRADEMARK

CHELATED IRON

"its iron may be maintained in solution over a greater area of the gastrointestinal tract, thus permitting an optimal physiological uptake..."

confirmed in J.A.M.A.*

"possesses outstanding qualities in terms of freedom from undesirable gastrointestinal effects."

"The chelation of iron minimized its toxicity and provided a high factor of safety against fatal poisoning."

AVAILABLE AS: CHĒL-IRON TABLETS BOTTLES OF 100 3 tablets supply 120 mg. elemental iron. CHĒL-IRON PEDIATRIC DROPS 30-CC. BOTTLES with graduated dropper each cc. supplies 16 mg. elemental iron; 0.5 cc. provides full M.D.R. for infants and children up to six. CHĒL-IRON PLUS TABLETS BOTTLES OF 100 3 tablets supply 72 mg. elemental iron plus B_{12} with intrinsic factor, folic acid, pyridoxine, other essential B vitamins, and C.

*Franklin, M., et al.: Chelate Iron Therapy, J.A.M.A. 166:1685, Apr. 5, 1958.
†U. S. Pat. 2,575,611

Kinney® KINNEY & COMPANY, INC. COLUMBUS, INDIANA

This patient's blood-pressure controlled for the first time without side effects

Remember this particular patient. He typifies the thousands of patients involved in a clinical investigation which promises to bring about a major change in rauwolfia therapy. The patient is being treated in a Massachusetts hospital. His blood pressure without treatment ranged up to 220/138; now *for the first time,* it is being maintained near normal *without side effects.* This dramatic case history is part of the story of a remarkable new antihypertensive agent **Singoserp** T.M. (syrosingopine CIBA)

coming as soon as sufficient supplies are available . . .
from CIBA, *world leader in hypertension research.*



whenever
he
starts
to

CHEW

he's
ready
for

Delectavites®

New vitamin-mineral supplement
in delicious chocolate-like nuggets



Each nugget contains:	
Vitamin A	5,000 Units*
Vitamin D	1,000 Units*
Vitamin C	75 mg.
Vitamin E	5 Units*
Vitamin B-1	2.5 mg.
Vitamin B-2	3.5 mg.
Vitamin B-6	1 mg.
Vitamin B-12 Activity	3 mcg.
Panthenol	5 mg.
Nicotinamide	20 mg.
Folic Acid	0.1 mg.
Biotin	30 mcg.
Rutin	12 mg.
Calcium Carbonate	135 mg.
Boron	0.1 mg.
Cobalt	0.1 mg.
Fluorine	0.1 mg.
Iodine	0.2 mg.
Magnesium	3.0 mg.
Manganese	1.0 mg.
Molybdenum	1.0 mg.
Potassium	2.5 mg.

*U.S.P. units Int. units

Dose: One Nugget per day
Supplied: Boxes of 30—one month's supply
Boxes of 90—three months' supply in family package.

There's nothing easier to give
or take–
than Delectavites.
A real treat . . .
the children's favorite . . .
tops with adults, too.

WHITE LABORATORIES, INC., KENILWORTH, N. J.

MODERN MEDICINALS

These brief résumés of essential information on the newer medicinals, which are not yet listed in the various reference books, can be pasted on file cards and a record kept. This file can be kept by the physician for ready reference.

Caldecort, Maltbie Laboratories Division, Wallace & Tiernan Inc., Belleville, N. J. Ointment containing a combination of hydrocortisone acetate, calcium undecylenate and neomycin. Indicated for relief and treatment of most common skin disorders. *Use:* As directed by physician. *Sup:* Tubes of ¼ oz.

Candettes Cold Tablets Family Products Department, Chas. Pfizer & Co., Inc., Brooklyn, New York. Each tablet contains 97 mg. salicylamide, 97 mg. phenacetin, 20 mg. caffeine, 5 mg. phenylephrine HCl, 10 mg. pheniramine maleate, and 20 mg. vitamin C. Indicated to provide fast, effective relief from symptoms of the common cold. *Dose:* Adults 1 to 2 tablets every three or four hours. Children, as directed by physician. *Sup:* Bottles of 26.

Clarin, Thos. Leeming & Co., Inc., New York, New York. Tablets, each containing 1500 international units of heparin potassium. Indicated for the management of hyperlipemia associated with atherosclerosis, especially in post-coronary patients and those with early signs of coronary artery disease. *Dose:* One tablet after each meal. *Sup:* Bottles of 50.

Clusivets, Ayerst Laboratories Incorporated, New York, N. Y. Tablets containing a combination of vitamins and minerals. Indicated as a year round diet booster for entire family. *Dose:* 1 tablet twice daily, or as directed by physician. *Sup:* Bottles of 100.

Cort-Quin, Dome Chemicals Inc., New York, N. Y. Creme contains micronized hydrocortisone (free alcohol) ½% or 1% and diiodohydroxyquinoline 1%, in ACID MANTLE base. Indicated for treatment of a wide variety of subacute and chronic dermatoses complicated or threatened with invasion by bacteria fungi and protozoa. *Use:* Apply lightly to affected area once or twice daily. *Sup:* With either ½% or 1% hydrocortisone in ½ oz. and 1 oz. tubes.

Cosa-Tetracyn Pediatric Drops, Pfizer Laboratories, division of Chas. Pfizer & Co., Inc., Brooklyn, New York. Suspension containing 100 mg. glucosamine-potentiated tetracycline

—Continued on page 80a

IS THIS YOUR PATIENT?

1.



EARLY POSTMENOPAUSE

Complains of low back pain, vague aches and fatigue

Posture is poor

No x-ray evidence of bone lesions

2.



LATER POSTMENOPAUSE

Back pain is severe, spreading to hips ("girdle pain")

Patient is round shouldered, walks with a stoop

X-ray reveals compression fractures of lower vertebrae

3.



70 AND OVER

Fracture of hip after a minor fall

X-ray reveals fracture of neck of femur

X-ray reveals compression fractures of lower lumbar vertebrae

These three patients have osteoporosis. Early diagnosis and treatment with "Formatrix" is important because osteoporosis is probably the only age change that can be averted. With "Formatrix" therapy, relief from the symptoms of *low back pain, vague aches* and *fatigue* may be obtained in as little as a few weeks. "Formatrix" supplies the essential materials to stimulate increased bone formation and prevent further loss of bone substance that leads eventually to loss of height, stooped posture, and disabling fractures.

The highest incidence of osteoporosis may be found among the 14,000,000 women in the U.S.A. who are 55 years of age and over. Some investigators claim that almost all women past the menopause will show some degree of osteoporosis; furthermore, if all these women were examined carefully, 50 per cent would show x-ray evidence of decreased bone mass.

Suspicion may be the handiest diagnostic tool since presenting symptoms vary from mild to severe and incapacitating pain, and no x-ray evidence of spinal degeneration is available until about 30 per cent of the bone matrix is lost. Between these two extremes there are other signs of estrogen deficiency such as *wrinkled and thinning skin,* a *tendency to appear older than stated years;* there may also be *hypercalciuria* when postmenopausal osteoporosis is complicated by acute osteoporosis of disuse.

Osteoporosis is primarily an atrophic condition of bone matrix formation and any factor that depresses osteoblastic activity or retards the formation of protein and connective tissue such as *prolonged immobilization, cortisone therapy,* or *malnutrition* will favor development of osteoporosis in both male and female.

5578

Ayerst

AYERST LABORATORIES
New York 16, N. Y. • Montreal, Canada

NEW

"FORMATRIX" contains three most essential bone building materials necessary *for matrix* formation, estrogen, androgen and vitamin C.

The estrogen component of "Formatrix" stimulates osteoblastic activity, thus aiding calcium and phosphorus deposition; it also imparts a feeling of "well-being." The anabolic action of methyltestosterone promotes the synthesis of protein and restores a positive nitrogen balance. Together, these hormones have a greater effect on bone and protein metabolism than either alone, and side effects are minimized because of the opposing action of the two steroids on sex-linked tissues. Vitamin C plays an important role in formation of intercellular cement substance and amino acid synthesis. "Formatrix" has a large amount of vitamin C to aid in new bone matrix formation and to further help in the healing of fractures.

"FORMATRIX" – each tablet contains:

Conjugated estrogens equine ("Premarin"®)	1.25 mg.
Methyltestosterone	10.0 mg.
Ascorbic acid	400.0 mg.

Dosage: 1 tablet a day – In the female, three weeks of treatment with a rest period of one week between courses is recommended.

Supplied: Tablets, bottles of 60 and 500.

LITERATURE AVAILABLE ON REQUEST

1.



EARLY POSTMENOPAUSE
No x-ray evidence of bone lesion

2.



LATER POSTMENOPAUSE
X-ray reveals compression fracture of lower vertebrae

3.



70 AND OVER
X-ray reveals fracture of neck of femur

TO RELIEVE LOW BACK PAIN – TO PROMOTE HEALING OF FRACTURES

in osteoporosis

'FORMĀTRIX'

(Brand of Steroid – Vitamin Combination)

for matrix formation

—Continued from page 77a

activity per cc. when reconstituted. Indicated wherever tetracycline is useful therapeutically or prophylactically. *Dose:* Average daily dose for infants and children is 10-20 mg./lb. in divided doses at 6 hour intervals. *Sup:* 10 cc. bottle containing 1.0 gm. tetracycline.

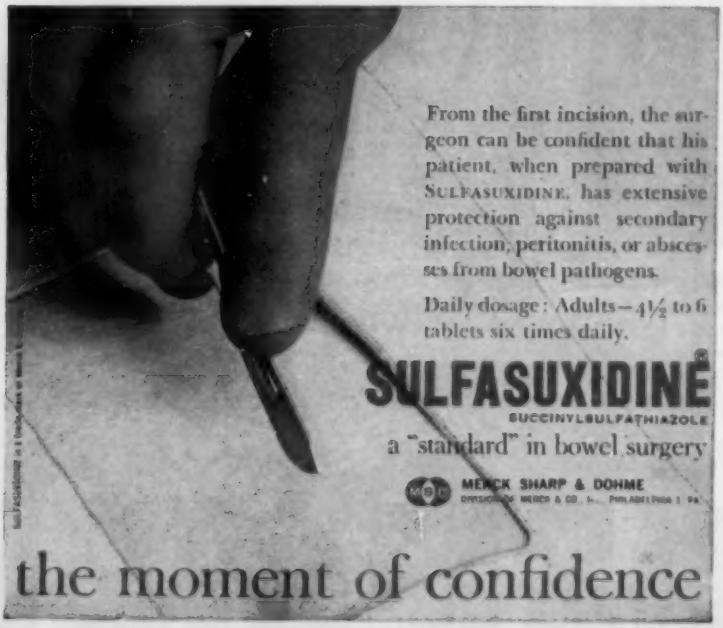
Immolin, Julius Schmid, Inc., New York, New York. Vaginal Cream-Jel a contraceptive product for use without a diaphragm. *Sup:* 75 gram tube with applicator, or 75 gram tube only.

Kenacort 2 mg., E. R. Squibb & Sons, New York, N. Y. New dosage strength. Indicated in a wide variety of disorders including rheumatoid arthritis, vasomotor rhinitis, bronchial asthma, edema, dermatoses and Hodgkins disease. *Dose:* As directed by physician. *Sup:* Bottles of 50.

Mi-Cebrin T, Eli Lilly & Company, Indianapolis, Indiana. Tablets, containing a combination of vitamins and minerals with intrinsic factor to boost the absorption of vitamin B_{12}. Indicated for treatment of adults who are sick or in a general state of poor nutrition. *Dose:* One tablet daily, or as directed by physician. *Sup:* Bottles of 30, 100 and 1000.

Neosporin Antibiotic Lotion, Burroughs Wellcome & Co., Inc., Tucka-

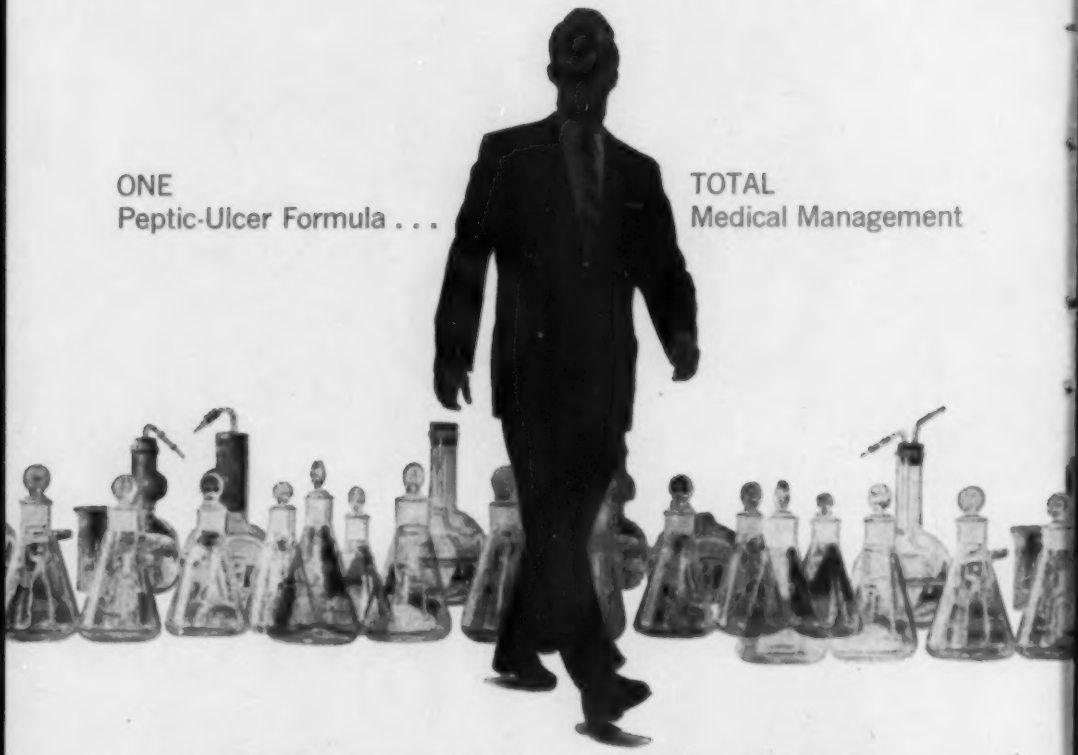
—Continued on page 93a




"neck-itis"
or any rheumatic "itis"
Sigmagen®
tablets
CORTICOID-SALICYLATE COMPOUND
more potent and comprehensive treatment than salicylate alone
...assured anti-inflammatory effect of low-dosage corticosteroid[1]
...additive antirheumatic action of corticosteroid plus
salicylate[2-5] brings rapid pain relief; aids restoration of function
more easily manageable corticosteroid dosage
...greater assurance of safer, uninterrupted course of treatment[1-5]
Write for complete bibliography.
Schering Corporation, Bloomfield, New Jersey
Schering

ONE
Peptic-Ulcer Formula . . .

TOTAL
Medical Management



Ever since the discovery of the therapeutic properties of aluminum hydroxide gel, Wyeth has been a pioneer in development of medicaments for peptic ulcer. Now, Wyeth research presents ALUDROX SA.

ALUDROX SA benefits the peptic-ulcer patient by providing complete medical management in one preparation. It relieves his pain, reduces his acid secretion, calms his emotional distress, promotes ulcer healing.

ALUDROX SA incorporates *ambutonium bromide*, an important *new* anticholinergic, to reduce gastric secretion and motility without significant side-effects or toxicity on therapeutic dosage.

For long- or short-term management—*anticholinergic, sedative, antacid, demulcent, anticonstipant* . . .

NEW

SUSPENSION TABLETS

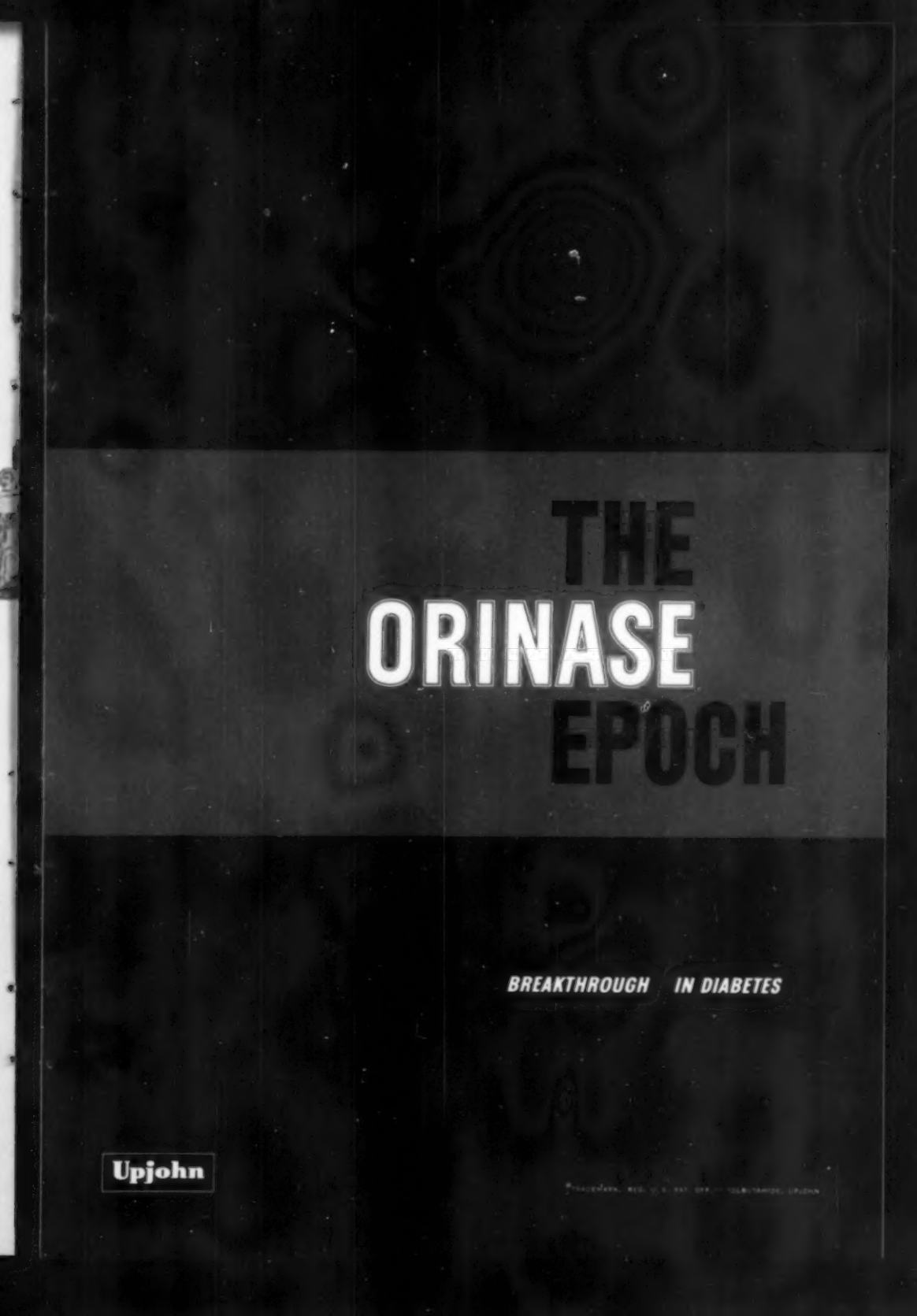
ALUDROX® SA*

Aluminum Hydroxide Gel with Magnesium Hydroxide, Ambutonium Bromide, and Butabarbital, Wyeth

*Sedative and anticholinergic

SUPPLIED: SUSPENSION, bottles of 12 fl. oz. TABLETS, bottles of 100. Each teaspoonful (5 cc.) and tablet contains 2.5 mg. of ambutonium bromide and 8 mg. of butabarbital in combination with aluminum hydroxide and magnesium hydroxide approximately equivalent to 1 teaspoonful of aluminum hydroxide gel and ¼ teaspoonful of milk of magnesia. Also available: Tablets Ambutonium Bromide, 10 mg., bottles of 100.

Wyeth®
Philadelphia 1, Pa.


THE
ORINASE
EPOCH
BREAKTHROUGH IN DIABETES
Upjohn



Location of the clinical and research centers throughout the United States where thousands of investigators helped to make possible the advent of

THE ORINASE EPOCH

ORINASE

BREAKTHROUGH IN DIABETES

Just last year, a new chapter began in the treatment of diabetes: Orinase became available for general clinical practice. Today, more than 300,000 diabetics are enjoying the advantages of oral management. This extensive experience, reinforcing the findings of hundreds of investigators in research centers all over the United States, has confirmed that Orinase is both safe and effective in the majority of adult, stable diabetics. And we now know that the significance of Orinase goes even further.

Before Orinase, research in diabetes was moving ahead slowly. Pathogenesis of the disease remained an enigma, and the mechanism of insulin action continued to elude investigators. Nor was any explanation forthcoming for the different types of diabetes mellitus, the progressive nature of the disease, or for the wide range of insulin requirements.

Clinically, too, there was much to be desired: the lifelong regimen of daily injections, the rigid meal schedules, and, above all, the constant threat of hypoglycemia. To the patient, these meant a life centered around his disease; to the physician, the ever-present danger of complications.

And now, one year after the introduction of Orinase, what has experience taught us? What has Orinase meant to practicing physicians, to patients, to investigators? What can we expect of the future? In briefest summary, this is where the evidence points:

1 **Diabetes mellitus does not appear to be a single pathological entity.** There are several types of diabetes mellitus. The most common is "Orinase-positive" diabetes, in which administration of Orinase induces release and utilization of the patient's **endogenous** insulin.

2 **In "Orinase-positive" diabetics, Orinase achieves better control** than injections of exogenous insulin.

ORINASE

ONE YEAR AGO–1957

Orinase was officially released for prescription on June 3, 1957. Prior to its release, it had been thoroughly and painstakingly tested in more than 20,000 patients.

NUMBER OF PATIENTS ON ORINASE:	20,000
CRITERIA OF PATIENT SELECTION:	Adult, stable diabetes (onset around 40 years of age)
INCIDENCE OF SIDE EFFECTS: *(transitory skin rash, nausea, etc.)*	Only 3%
TOXICITY:	None
ESSENTIAL CONDITION FOR RESPONSE TO ORINASE:	Functional pancreas
PRIMARY MODE OF ACTION OF ORINASE:	Unknown
CONTRAINDICATIONS:	Juvenile diabetes... brittle diabetes... history of coma, acidosis, or ketosis... fever... severe trauma... gangrene... diabetes adequately controlled by diet alone.

ONE YEAR LATER–1958

Today, Orinase is a routine therapeutic agent in the management of hundreds of thousands of diabetics. Numerous clinical observations confirm its efficacy and have brought to light many new additional benefits of Orinase therapy.

Over 300,000
Age: 40+ (at onset) Insulin: 40– (daily requirements) *These are typical criteria for the candidate most likely to respond to Orinase. However, diabetics with an earlier development of the disease also deserve a careful trial with Orinase, because Orinase has been found effective in many of the 20 to 40 age-of-onset diabetics.*
Approximately 3% (side effects continue to be mild and transitory– drug withdrawn for these effects in only 1.6%)
None
Functional beta cells of the pancreas
In the presence of a functional pancreas, Orinase effects the production and utilization of *native* insulin via *normal* channels.
Juvenile diabetes…brittle diabetes…history of coma, acidosis, or ketosis…fever…severe trauma…gangrene…diabetes adequately controlled by dietary restriction alone.

Objective advantages of Orinase

Intensive diabetic research, stimulated by the introduction of Orinase, has led many investigators to revise the very concept of diabetes as a single clinical entity, and to coin the term *"Orinase-positive"* diabetes. Oral therapy of *"Orinase-positive"* diabetics presents the following advantages:

Better control of diabetes

Orinase-responsive patients show more stable blood sugar levels and less glycosuria on Orinase than on insulin. Because Orinase acts via *endogenous* insulin, daily control of diabetes is smoother; "peaks and valleys" typical of exogenous insulin are leveled out.

Greater freedom from hypoglycemia

Patients on Orinase rarely experience hypoglycemic reactions. Even when hypoglycemia does occur, it is milder and more amenable to therapy than insulin (hypoglycemic) reactions.

Side effects—few and minor

Side effects attributable to Orinase occur in about 3% of cases, and only half of these necessitate withdrawal of Orinase. Most common are skin rashes or mild gastrointestinal upsets.

No known toxicity

Careful observations of large series of patients maintained on Orinase for more than two years revealed no damage to the liver, blood, kidneys, or pancreas. Orinase is not goitrogenic.

Painless management of diabetes

Simple, easy, oral administration eliminates subcutaneous fat atrophy and frequent allergic reactions to insulin.

No increase in insulin requirements

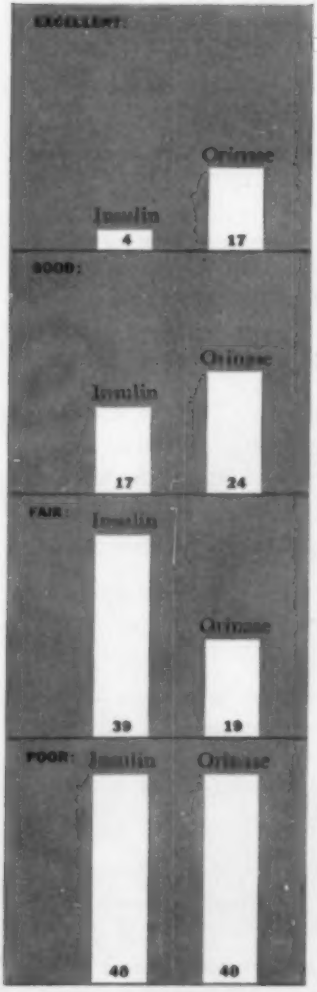
Even after prolonged Orinase therapy, patients scarcely ever show any increase in insulin requirements. In fact, such increase on Orinase is *less common than on insulin.*

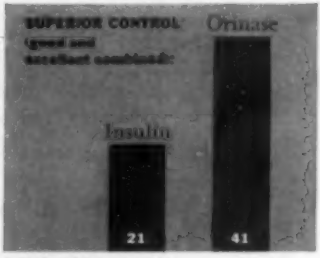
No impairment of diabetic status

Orinase therapy does not aggravate the underlying diabetic pathology. In some cases, there may be an actual improvement or even a remission.

QUALITY OF DIABETIC CONTROL IN 100 PATIENTS ON ORINASE COMPARED WITH CONTROL ON INSULIN[1]

Control rating:

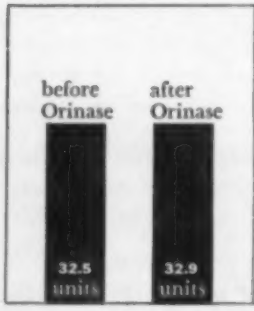




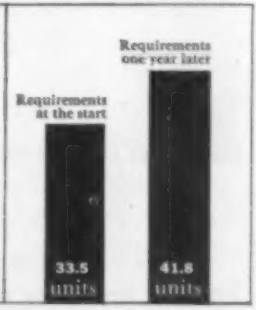
BETTER CONTROL OF DIABETES WITH ORINASE

NO INCREASE IN INSULIN REQUIREMENTS ON ORINASE[2]

Change in average insulin requirements of 30 diabetics resuming insulin after 1-13 months on Orinase



Change in average insulin requirements of 100 diabetics after one year of insulin alone



1. Based on the data of McKendry, J. B. R.; Kuwayti, K., and Sagle, L. A.: Canad. M. A. J. 77:429 (Sept. 1) 1957.
2. Based on the data of Pfeiffer, E. F.: J. Endocrinol. 15:xlviii (June) 1957.

Subjective advantages of Orinase

"The extreme satisfaction of patients whose conditions are now controlled with tolbutamide is immeasurable."

Breneman, J. C.: J.A.M.A. *164*:627 (June 8) 1957.

ORINASE HELPS CORRECT MAJOR DISLOCATIONS IN THE LIFE PATTERN OF DIABETICS

Orinase tends to restore emotional balance

Diagnosis of diabetes, usually coming late in life and carrying with it a long sentence of daily fear and anxiety, profoundly upsets the emotional balance of the average patient. Adjustment to radical changes in daily living is difficult. Daily injections, special meal schedules, and new limitations on activities make the patient feel "set apart." Oral therapy simplifies life, brings it closer to normal, helps restore a cheerful, hopeful outlook.

Sense of personal freedom regained on Orinase

No longer tied to a refrigerator, sterilizing apparatus, nearest restaurant, and rigid schedules, a diabetic on Orinase can enjoy travel and a variety of personal activities, free from the tyranny of the clock and the threat of hypoglycemia.

Orinase makes diabetes easier on the patient's family

With no dependence on members of the family for diabetic care, the patient can resume a more normal place in the family circle.

Orinase permits occupational continuity

Because of the hazards of hypoglycemic shock, some diabetics are forced to give up their customary occupations, or must limit and curtail their working hours—as may be the case with traveling salesmen, business executives, and others with unpredictable work schedules. On Orinase, patients usually can continue their normal occupations.

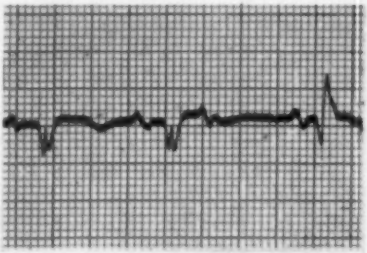
Normal social life made possible by Orinase

"Orinase-positive" diabetics can visit their friends, without the embarrassing necessity of meals at special hours...can participate in community life and social events in a more normal fashion.

Stability and sense of well-being on Orinase

Patients report an increased sense of stability and well-being...they are less irritable... their mood and outlook are improved.

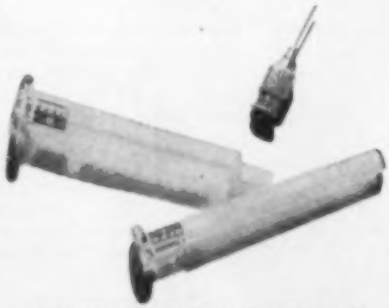
ADDED ADVANTAGES OF ORINASE IN DIABETICS WITH SPECIAL PROBLEMS



IN THE DIABETIC WITH CARDIOVASCULAR COMPLICATIONS, Orinase helps avoid superimposed hypoglycemic stress



IN THE OBESE DIABETIC, Orinase helps reinforce dietary discipline



IN THE DIABETIC WITH FEAR OF INJECTIONS, Orinase affords greater equanimity through oral control



IN THE DIABETIC WITH HYPERTENSION, Orinase reduces the pressure of rigid schedules



IN THE DIABETIC WITH TREMOR, Orinase overcomes the possibility of inaccurate self-injection



IN THE DIABETIC WITH IRREGULAR WORKING HOURS, Orinase removes the "tyranny of the clock" from the patient's therapeutic regimen

A New Life in THE ORINASE EPOCH

J.D.—FEMALE—AGE 32

Jane D., a successful commercial artist, now 32 years of age, had a sudden onset of diabetes in her early twenties after going through what seemed an



unduly prolonged and difficult recovery from a severe infection. At that time, she also experienced concomitant emotional upsets. When the diagnosis of diabetes was confirmed by a fasting blood sugar of 230 mg. per 100 cc. and 4 plus sugar in the urine, Jane was placed on 40 units of NPH insulin in the morning, and 5 units at night to prevent noc-



turnal hyperglycemia. She was ordered to maintain a restricted diet. Good control was established after a few hypoglycemic episodes secondary to disruption of her meal schedule.

When she returned to her drawing board after her illness and began her diabetic regimen, Jane found that her ability to function was impaired. She "felt ashamed" of her diabetes and refused to discuss it with anyone. She described herself as "limited emotionally" in both her business and social life. She "cheated" on



her diet and suffered accordingly, physically and psychologically. Because her work as an artist required her to conform to demands of clients for business meetings at odd hours and to complete assignments on rigid deadlines, she found herself under increasingly severe tensions. These, and her somewhat exaggerated fears of possible hypoglycemic reactions, carried over into her social activities as well.

The transfer to Orinase

Ten months ago, Jane's physician successfully transferred her from insulin to oral control with Orinase, establishing excellent balance on 0.5 Gm. t.i.d. Although she had become inured to her insulin injections, she found other factors in the oral medication providing definite advantages: less effort; emotional release from many of her former fears and tensions; greater freedom to work on irregular schedules; and ability to confront possible disruption of her mealtime.

Jane D. now leads a more normal existence. She is able to work consistently despite her irregular schedule. She is more relaxed in all her activities, and finds that her "consciousness of diabetes" has been virtually eliminated.

This case, illustrating some of the changing aspects of diabetes control offered by oral management, is based on actual clinical data.



THE ORINASE EPOCH

BREAKTHROUGH FOR THE PATIENT

A more normal, more secure life for the majority of diabetics.

BREAKTHROUGH FOR THE PHYSICIAN

Smoother control, free from the danger of hypoglycemic shock.

BREAKTHROUGH FOR METABOLIC INVESTIGATORS

New stimulus and new evidence in searching for the final answers to diabetes.

ORINASE PRESCRIPTION INFORMATION

Dosage: Patients responsive to Orinase may begin therapy as follows:

First day . . . . . 3 Gm.
Second day . . . . . 2 Gm.
Third day . . . . . 1 Gm.

Usual maintenance dose . . . . . 1 Gm.
(must be adjusted to patient's response)

To change from insulin to Orinase:
If previous insulin dosage was less than

40 u./day reduce insulin 30% to 50% immediately; gradually reduce insulin dose if response to Orinase is observed.

more than 40 u./day reduce insulin 20% immediately; carefully reduce insulin beyond this point if response to Orinase is observed. In these patients, hospitalization should be considered during the transition period.

Prior to using Orinase in selected patients, the physician should perform a complete physical examination and indicated laboratory studies. During the initial test period, the patient should report to the physician daily, and for the first month at least once weekly for physical examination and blood sugar determination. After the first month, the patient should be examined at monthly intervals or more frequently as indicated.

The patient should be instructed to report immediately to his physician if he does not feel as well as usual.

It is especially important that the patient, because of the simplicity and ease of administration of Orinase, does not develop a careless attitude ("cheating" on his diet, for example) which may result in serious consequences and failures of treatment.

Supplied: In 0.5 Gm. scored tablets, bottles of 50.

Complete literature available on request.

Upjohn

The Upjohn Company
Kalamazoo, Michigan

ORINASE

—Continued from page 80a

hoe, N. Y. Each cc. containing 10,000 units Aerosporin brand polymyxin B sulfate, and 5 mg. neomycin sulfate. Indicated for treatment of pustular acne, pyodermas, folliculitis, infected eczemas and infected dermatoses. *Dose:* As directed by physician. *Sup:* Plastic squeeze bottles of 20 cc.

Parafon and Parafon w/Prednisolone, McNeil Laboratories, Inc., Philadelphia, Pennsylvania. Parafon tablets contain 125 mg. chlorzoxazone and 300 mg. acetaminophen. Parafon W/prednisolone tablets contain 1.0 mg. prednisolone. Plain tablets indicated for relief of pain, stiffness, and limitation of motion associated with disorders involving skeletal muscle spasm. Tablets with prednisolone indicated for skeletal muscle spasm and inflammation. *Dose:* As directed by physician. *Sup:* Parafon in bottles of 50. Parafon W/Prednisolone in bottles of 36.

Pentids "400," E. R. Squibb & Sons, Division of Olin-Mathieson Chemical Corp., New York, New York. Double potency form of Pentids, each tablet containing 400,000 units crystalline penicillin G potassium buffered with calcium carbonate. Indicated for treating various infections where larger doses of penicillin are necessary. *Dose:* One tablet three times daily. *Sup:* Bottles of 12 and 100.

—Concluded on page 98a

whenever he starts to CHEW

he's ready for Delectavites®

New vitamin-mineral supplement
in delicious chocolate-like nuggets



Each nugget contains:			
Vitamin A	5,000 Units*	Boron	0.1 mg.
Vitamin D	1,000 Units*	Cobalt	0.1 mg.
Vitamin C	75 mg.	Fluorine	0.1 mg.
Vitamin E	2 Units*	Iodine	0.2 mg.
Vitamin B-1	2.5 mg.	Magnesium	3.0 mg.
Vitamin B-2	2.5 mg.	Manganese	1.0 mg.
Vitamin B-6	1 mg.	Molybdenum	1.0 mg.
Vitamin B-12 Activity	3 mcg.	Potassium	8.5 mg.
Panthenol	3 mg.	*U.S.P. units	Int. units
Nicotinamide	20 mg.	Dose: One Nugget per day	
Folic Acid	0.1 mg.	Supplied: Boxes of 30—one month's supply	
Biotin	30 mcg.	Boxes of 90—three months' supply or family package.	
Rutin	12 mg.		
Calcium Carbonate	125 mg.		

WHITE LABORATORIES, INC., KENILWORTH, N. J.

Now
in inflammatory anorectal disorders . . .

The Promise of Greater Relief

the first suppository to contain

hydrocortisone for effective control of proctitis

- Proctitis accompanying ulcerative colitis
- Radiation proctitis
- Postoperative scar tissue with inflammatory reaction
- Acute and chronic nonspecific proctitis
- Acute internal hemorrhoids
- Medication proctitis
- Cryptitis



Ulcerative Colitis



Radiation Proctitis



Postoperative Scar Tissue

Supplied: Suppositories, boxes of 12. Each suppository contains 10 mg. hydrocortisone acetate, 15 mg. extract belladonna (0.19 mg. equiv. total alkaloids), 3 mg. ephedrine sulfate, zinc oxide, boric acid, bismuth oxyiodide, bismuth subcarbonate, and balsam peru in an oleaginous base.

Wyanoids® HC

Rectal Suppositories with Hydrocortisone, Wyeth

Wyeth
Philadelphia 1, Pa.

to curb those
sleep-disrupting
"night coughs"



that waken the whole household...

CLISTIN® EXPECTORANT

Clistin Expectorant is the only cough product containing CLISTIN Carbinoxamine Maleate—that well-accepted, potent, antihistamine. Relieves coughs of the common cold and coughs of allergic or non-allergic upper respiratory conditions.

Clistin Expectorant—samples on request.

McNEIL

McNEIL LABORATORIES, INC.
Philadelphia 32, Pa.

"anti-cough"...

antihistaminic...

completely safe for pediatric use...

non-narcotic...

does not upset the stomach...

tastes wonderful

Introducing

Sof

NEW TRANQUILIZER

Advantages of Softran

1. **Provides effective tranquilization with physiological safety.**
2. **Often reduces hypertension by means of extended relaxation.**
3. **Allows natural sleep by releasing tensions.**
4. **Softab form is convenient...can be taken anywhere, anytime, no water needed.**



Excerpts

from clinical and experimental studies with Softran

Softran is a "true" tranquilizer

Pharmacologic screening involving four distinct types of techniques has demonstrated that buclizine [SOFTRAN] is a "true" tranquilizer. The experimental animal did not exhibit motor stimulation or depression often seen with a number of agents currently being used as tranquilizers. *Cutting, Windsor; Baslow, Morris; Read, Dorothy, and Furst, Arthur, School of Medicine, Stanford University, Stanford, California: The Use of Fish in the Evaluation of Drugs Affecting the Central Nervous System, submitted for publication.*

Softran is effective for mild to moderate anxiety-tension states

Studies with buclizine [SOFTRAN] indicated it to be a potent and versatile therapeutic agent with clear-cut tranquilizing properties. It was found to be an effective ataraxic agent for mild to moderate anxiety-tension states and mild senile agitation...

With the tensions and stresses of everyday life mounting to a new high every day, the need for such preparations is apparent. The absence of habituation and tolerance ...makes it of especial value. Additional properties of antihistaminic, anti-nauseant, anti-motion sickness and hypotensive activity make buclizine [SOFTRAN] a valuable compound in this field. *Settel, Edward, M.D., Brooklyn, New York: Buclizine, a new Tranquilizing Agent, submitted for publication.*

Softran produced no undue drowsiness or other side effects

In studies using buclizine [SOFTRAN] for patients with anxiety associated with infertility SOFTRAN was found to be an effective tranquilizer. In doses of 50 mg. twice daily adequate effectiveness was obtained without undue drowsiness or other noticeable side effects. *Schultz, John M., M.D., Miami, Florida: Excerpt from clinical study.*

tran

...NEW SOFTAB* FORM

NEW
NOW AVAILABLE IN
2
DOSAGE STRENGTHS
25 mg. & 50 mg.
Softabs*



pleasant tasting
melts in the mouth
no water needed

Formula:
Buclizine Hydrochloride.....50 mg. & 25 mg.

Usual dosage:
One 50 mg. tablet, 1 to 3 times daily
CHILDREN: One 25 mg. tablet, 1 to 2 times daily.

Softran is a superior tranquilizer in disturbed menopausal patients

We have been using buclizine hydrochloride [SOFTRAN] for six months on over 200 patients, both obstetrical and gynecological. We have found it to be a very superior tranquilizer in those patients who are at the menopause age and require adjuvant therapy to ordinary hormone replacement . . . It has been universally well tolerated. In only two cases in the entire group has there been objectionable lassitude or drowsiness. These have been counteracted very simply by the use of amphetamine compounds. We can unhesitatingly recommend it for use in such cases. *Rutherford, Robert N., M.D.: Seattle, Washington: Excerpt from clinical study.*

Softran often reduces hypertension

It is particularly noteworthy that systolic blood pressure is often reduced in patients with essential hypertension. Diminution of psychic stress factors is apparently responsible for this hypotensive effect. *Settel, Edward, M.D., Brooklyn, New York: Buclizine a New Tranquilizing Agent, submitted for publication.*

Softran relieved anxiety symptoms associated with infertility

Buclizine [SOFTRAN] and placebo were employed in a double blind study conducted with patients having anxiety symptoms associated with infertility. Marked tranquilizing properties were observed with the buclizine-containing preparation [SOFTRAN]. An effective daily dose was 2 tablets (50 mg. each). The product was well tolerated; side effects, such as drowsiness, were minimal. *Tyler, Edward T., M.D., Los Angeles, California: An Evaluation of the Use of Tranquilizing Agents in Infertility, submitted for publication.*

Stuart

THE STUART COMPANY
PASADENA, CALIFORNIA

*TRADEMARK

—Concluded from page 93a

Polaramine, Schering Corporation, Bloomfield, New Jersey. Tablets contain 2 mg. dextro-chlorpheniramine; Repetabs contain 3 mg. in the outer layer for prompt effect and 3 mg. in the inner core. Indicated for prevention and treatment of all allergic conditions responsive to oral antihistamines generally. *Dose:* Tablet dosage is one tablet t.i.d. or q.i.d. Repetab dosage is one Repetab in the morning and one at night. In more refractory cases a third Repetab may be added. *Sup:* Either form in bottles of 100 and 1000.

Pro-Banthine with Dartal, G. D. Searle & Company, Chicago, Ill. Tablets, each containing 15 mg. propantheline and 5 mg. thiopropazate dihydrochloride. Indicated for treatment of gastrointestinal disturbances in which there is prominent emotional or anxiety overlay. *Dose:* 1 tablet three times daily. *Sup:* Bottles of 100 and 500.

Salundek Solution, Maltbie Laboratories Division, Wallace & Tiernan Inc., Belleville, New Jersey. Contains salicylanilide, mono- and dichlorosalicylanilides, undecylenic acid, and alcohol. Indicated for treatment of ringworm of the scalp. *Use:* As directed by physician. *Sup:* Bottles of 8 oz.

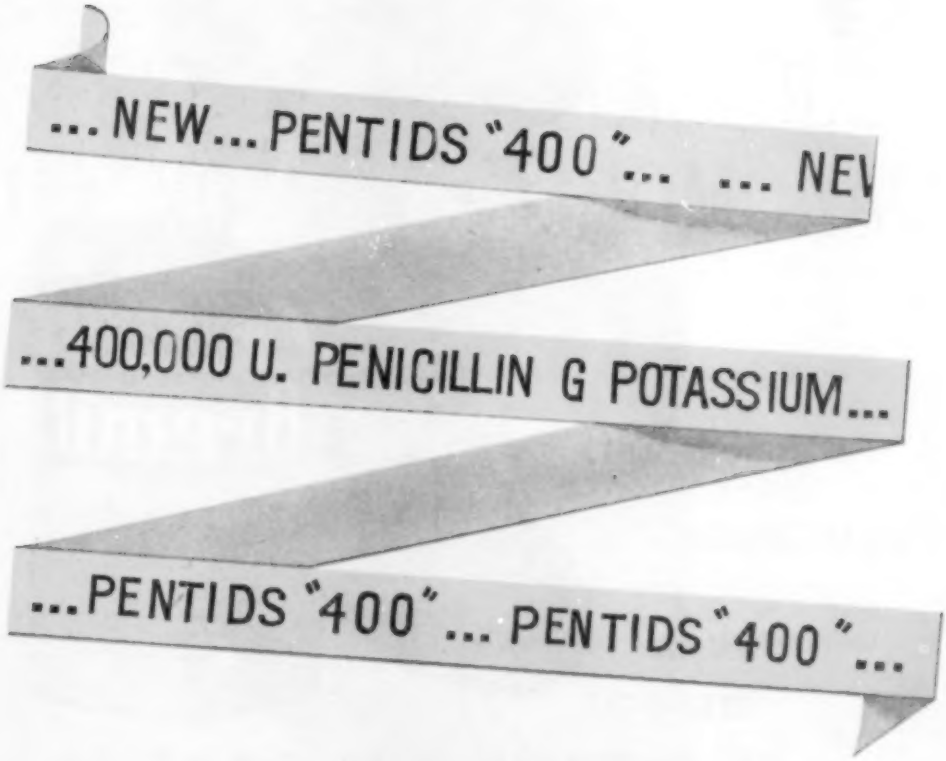
Softran, 25 Mg., The Stuart Company, Pasadena, California. New dosage strength containing 25 mg. buclizine hydrochloride. Indicated for relief of mild to moderate anxiety-tension states, where a smaller dosage is indicated. *Sup:* Bottles of 100.

Sterotril, Schering Corporation, Bloomfield, New Jersey. Tablets, each containing 2.5 mg. prednisone and 2 mg. perphenazine. Indicated for the dual problems of steroid-responsive diseases having a stress overlay. *Dose:* As directed by physician. *Sup:* Packages of 30 to 100.

Synalgos-DC, Ives-Cameron Company, Philadelphia, Pennsylvania. Capsules, each containing 16 mg. drocode bitartrate, 6.25 mg. promethazine hydrochloride, 3.0 grs. acetylsalicylic acid, 2.5 grs. phenacetin, and 7.5 mg. mephentermine sulfate. Indicated for relief of moderate to severe pain. *Dose:* 1 or 2 capsules initially, then 1 capsule four to six times daily. *Sup:* Bottles of 48.

Vi-Daylin Pressure-Pak, Abbott Laboratories, North Chicago, Illinois. Multivitamin preparation in a 12 ounce size pushbutton container.

Vita-Metrazol Tablets, Knoll Pharmaceutical Company, Orange, New Jersey. Each tablet contains 100 mg. Metrazol, 25 mg. ascorbic acid, and prophylactic amounts of niacinamide, thiamine, riboflavin, pyridoxine and d-panthenol. Indicated for fatigued and convalescent patients as well as for the elderly who are apathetic, confused and suffer from other behavioral disorders. *Dose:* As directed by physician. *Sup:* Bottles of 100 and 1000.



New convenient oral tablets . . . PENTIDS "400" . . . Economical . . . where double strength Pentids is required for treatment of severe infections due to **Staphylococcus . . . Hemolytic Streptococcus . . . Pneumococcus.** Also indicated for prevention of streptococcal infections when there is a history of rheumatic fever. PENTIDS "400" . . . Squibb Penicillin G Potassium 400,000 Unit Tablets (Buffered) . . . Dosage: 1 tablet t.i.d. without regard to meals . . . Supply: Scored tablets—bottles of 12 and 100.

For common bacterial infections, prescribe PENTIDS . . . 200,000 unit buffered Penicillin G Potassium Tablets . . . Dosage: 1 or 2 tablets t.i.d. without regard to meals . . . Supply: Scored tablets—bottles of 12 and 100.

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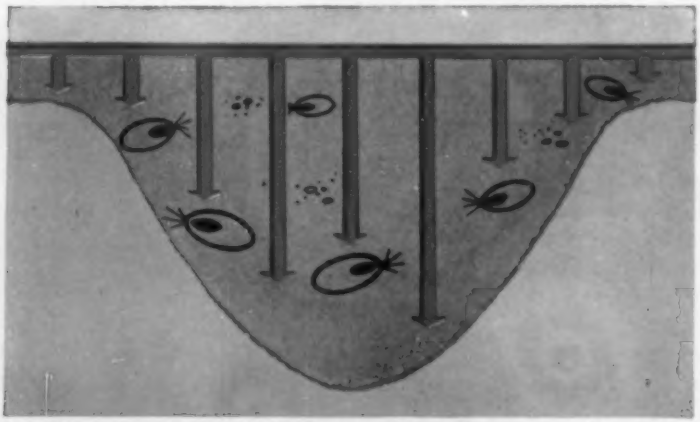
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Practical Evaluation of Nystagmus

PHILIP P. ELLIS, M.D.
Iowa City, Iowa

PATIENTS with nystagmus are frequently seen by general practitioners. The understanding of this finding is most perplexing chiefly because our knowledge of the neuro physiology involved is limited and confused. However with a systematic arrangement of the present knowledge, nystagmus should be regarded as a helpful finding rather than as a confusing sign.

The associated symptoms of a patient with nystagmus may be ocular, otologic, or neurologic in character. The eye symptoms which may occur are poor visual acuity, diplopia, or the illusion of movements of objects in space about the subject (oscillopsia). Otologic symptoms of vertigo, tinnitus and hearing loss may accompany nystagmus, or neurologic symptoms such as past pointing, ataxia, anesthesia, parasthesia and paresis may be present. These symptoms along with certain signs as will be discussed, help the practitioner to a practical approach in differentiating and evaluating the possible causes of this entity.

To understand nystagmus, one must be familiar with certain reflexes that maintain the eyes in a steady gaze.

Reflexes Involved in Steady Gaze

Certain reflex pathways appear to be most important in maintaining the eyes in a steady position (Fig. 1). A brief description of the more important ones is as follows:

1) *Fixation Reflex.* The fixation reflex develops within the first few months of life. Fairly good visual acuity usually is required in at least one eye for the development of this reflex, but occasionally patients with less than 20/200 vision in each eye learn to fixate with an extra foveal portion of the retina and thus are able to maintain a steady position of the eyes. Adults who have once developed a good fixation reflex do not lose steady gaze if they subsequently lose vision. The fixation reflex is dependent upon the normal func-

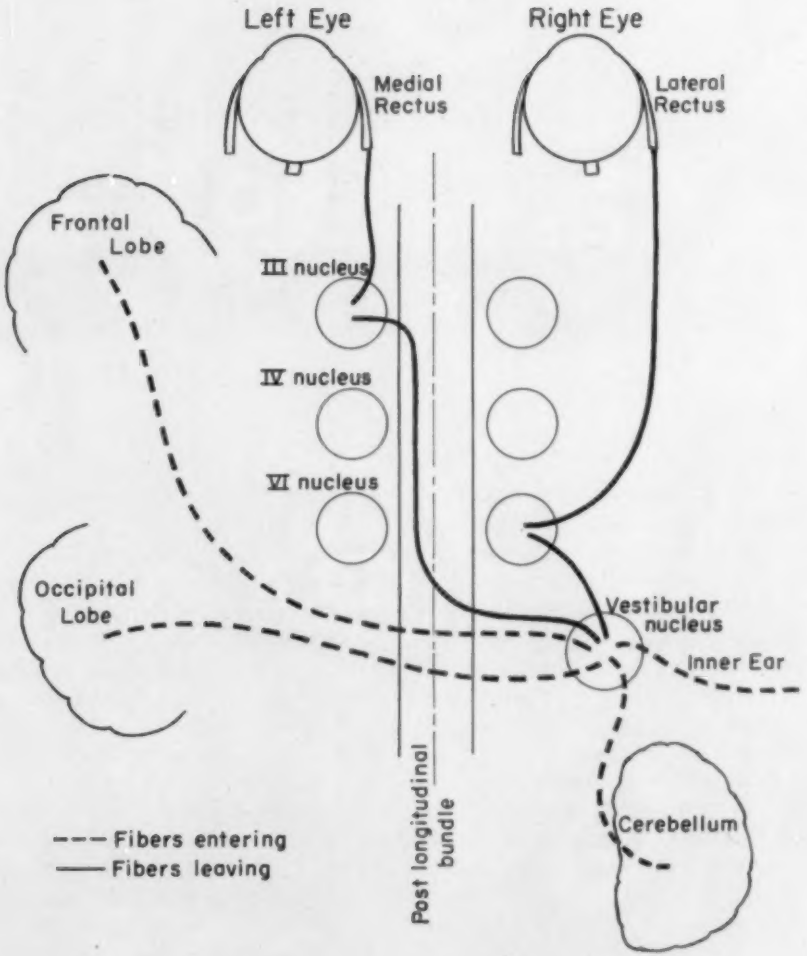


Figure 1. Diagram to show some of the important connections of the right vestibular nucleus in maintaining a steady horizontal position of gaze. Corresponding nerve tracts are located on the left side. Any disturbance in the diagrammed cortex, nuclei, or nerve pathways may result in nystagmus.

tion of the retina, optic pathways, visual cortex, extraocular muscles, and nerves leading to these muscles.

2) *Reflexes from the Otoliths and the Vestibular Nuclei.* The tracts for these reflexes run from the vestibular nuclei to the nuclei of cranial nerves III, IV and VI via the posterior longitudinal fasiculus. From this latter group of nuclei, nerves travel to the extraocular muscles. These reflexes must be bilaterally equal to maintain a steady position in the forward gaze. On horizontal movement of the eyes these reflexes are modified to allow a steady even turning of the globes with maintenance of vertical orientation.

3) *Voluntary Movement Reflex.* The nerve pathways for this reflex are thought to originate in the frontal lobe and run to the contralateral subcortical centers, the vestibular nuclei for horizontal movements and the superior colliculi for vertical movements. From these centers the tracts follow the same course to the extraocular muscles as mentioned above. Destruction of the supra nuclear portion of this reflex arc causes the eyes to deviate to the side of the lesion.

4) *Following Movement Reflex.* The centers for this reflex are in the occipital lobe. The nerve pathway runs from this cortical area to the subsortical centers mentioned above. Again the supra nuclear course of the fibers is by way of the posterior longitudinal fasiculus to the III, IV and VI cranial nerve nuclei. Fibers from these nuclei then go to the extraocular muscles. If the occipital lobe areas involved in this reflex are destroyed, the eyes deviate to the side of the involvement.

Thus one sees that the maintenance of the steady position of the eyes is dependent upon certain reflexes that result from the smooth integrated function of cortical centers, the vestibular nuclei and its tracts, the III, IV and VI cranial nerves and the visual pathways leading from the retina to the visual cortex. When there is an interference with any of these reflex patterns, nystagmus may result.

Characteristics of Nystagmus

Nystagmus may be defined as abnormal involuntary oscillations of the eyes. These oscillations usually follow a pattern. Nystagmus is classified either according to etiology or according to certain qualities of the movements.

There are two basic types of movements in nystagmus. The random to and fro type of movement with equal amplitudes and speed of motion in both directions is referred to as "pendular" or "searching". The type of movement which is characterized by a slow drifting component followed by a quick corrective component is called "jerk" nystagmus. The direction of the nystagmus is determined by the direction of the quick component.

Jerk nystagmus may be further divided into three degrees according to its presence or absence in the different fields of gaze.

First degree: The nystagmus is present only on lateral gaze with the quick component toward the side gaze.

Second degree: The nystagmus is present in the forward position as well as in the lateral gaze.

Third degree: The nystagmus is present in all directions of gaze.

First degree nystagmus may be physiologic, but second and third degree

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nystagmus are always patholgic.

Classification of Nystagmus When a patient presents himself with nystagmus the practitioner should try to establish whether he has a normal physiologic nystagmus or a pathologic nystagmus. Some of the more important features of physiologic and pathologic nystagmus are listed below.

Table I DIFFERENTIAL FEATURES OF NYSTAGMUS

	PENDULAR MOVEMENTS	
	OCULAR	HEREDITARY
1. AGE OF ONSET	Infancy	Infancy
2. VISION	Very poor	Reduced 20/40-20/60
3. TYPE OF NYSTAGMUS	Mainly horizontal	Usually horizontal
4. POSITION OF EYES FOR NYSTAGMUS	Any direction	Less nystagmus just off center
5. ASSOCIATED SYMPTOMS	None	None
6. COURSE OF NYSTAGMUS	Remains unchanged	Remains unchanged

A. Physiologic Nystagmus

1. *End Point Nystagmus.* This type of nystagmus is easily recognized. It is present only in extreme lateral gaze. The eyes tend to drift toward the midline (slow phase), and this is followed by a quick corrective movement (fast phase) toward the direction of gaze. End point nystagmus is normally found in many people.

2. *Optokinetic Nystagmus.* "Railway" or optokinetic nystagmus is a type of physiologic nystagmus which results from a continuous change of fixation points. The eyes fixate on an object which is moving out of the field of vision. As the object disappears, the eyes refixate a new object (fast phase) which is followed again out of the field of vision (slow phase). People riding in a train and observing passing objects are easily observed to show this phenomena; hence the term "railway" nystagmus. Optokinetic nystagmus may be absent in certain neurologic disorders such as lesions of the occipital lobe, temporal lobe, frontal lobe, or internal capsule.

3. *Caloric and Rotational Nystagmus.* These types of nystagmus are utilized in testing vestibular and labyrinthine function. In the bony labyrinth are three semicircular canals which contain lymph systems, the endolymph and perilymph. At the end of these canals are ampullary enlargements in which are sensitive hair cells, the cristae. Displacement of the lymph sets up an electro-chemical response which is transmitted by the cristae to the cerebral centers. Stimulation of the ampullary area by displacement of the lymph causes the eyes to move horizontally in a slow phase to the side opposite the stimulation. The slow phase is followed by a quick recovery phase to the opposite direction. This cycle of slow and fast movements is repeated until the effects of the stimulation are below threshold level.

Clinically the test is performed by having the patient bend his head forward 30° or backward 60° to put the horizontal semicircular canal in the horizontal or vertical meridian. Warm or cold water is then injected into the external auditory canal. The lymph is

	JERKY MOVEMENTS	
PHYSIOLOGIC	LABYRINTHINE	CENTRAL
Normally present	Time of disease	Time of disease
Good	Usually good	Variable
Horizontal	Horizontal, vertical, rotary or mixed	Horizontal, vertical, rotary or mixed
Only extreme lateral gaze	Variable	Variable
None	Vertigo, occasional hearing loss	Dependent upon area of brain involved
Remains unchanged	Diminishes with time	Seldom diminishes

displaced toward the ampulla with warm water and away from it with cold water. Thus with a cold water caloric test, the quick component is away from the side of the stimulation, and with warm water the quick component is toward the side of the stimulation. The nystagmus produced by the test is timed and compared to normal values; each side is tested separately. There may be a hyper- or a hypo-function depending on whether there is an irritative or a paralytic type of lesion.

Stimulation of the ampullary region of the semicircular canals may be obtained by rotating the patient in a Barany chair. During the turning the ampulla is stimulated on the side corresponding to the direction of the turning. When the turning ceases, the ampulla on the opposite side is stimulated. This latter response is the one observed in evaluating the function of the labyrinth.

B. Pathologic Nystagmus

1) *Ocular Nystagmus.* Ocular nystagmus is characterized by random searching movements of the eyes. The excursions are pendular and usually develop in infancy as a result of an inability of the eyes to develop a fixation reflex because of some visual or visual pathway disorder. The common causes are corneal scars, cataracts, retinal lesions and optic nerve anomalies. The vision is usually very poor.

2) Hereditary or Congenital Nystagmus. This is probably the most common type of nystagmus seen by the general practitioner. There is a history of a "quivering" of the eyes since infancy. Vision is usually reduced to about 20/40 or 20/60 but still sufficient to permit most visual tasks to be performed satisfactorily. The movements are of a pendular nature but are less gross than those in ocular nystagmus. They consist of fairly rapid small excursions which may be minimized on looking slightly to either side of the forward position. There is a definite hereditary pattern, usually recessive; no known anatomic lesions exist in this condition.

4) *Labyrinthine or End Organ Nystagmus (vestibular nystagmus).* This nystagmus can be considered a pathologic form of caloric nystagmus. It is a consequence of an excessive or reduced stimulation of the vestibular nuclei usually because of disease of the inner ear.

Diseases such as acute otitis media and labyrinthitis are irritating in character and hence produce an excessive stimulation of the vestibular nuclei. The result is that the eyes are driven (slow phase) to the side opposite the lesion, and the corrective (quick phase)

is toward the side of the lesion. Chronic inner ear disease may result in a decreased stimulation of the vestibular nuclei. In such instances, the stimulus from the opposite uninvolved side causes the eyes to be turned toward the side of the lesion in the slow phase; the quick component is then opposite the side of the lesion. Vertigo is a frequent associated symptom found in people with labyrinthine nystagmus. This form of nystagmus diminishes with time as a result of a compensatory adjustment in the uninvolved labyrinth.

5) *Central nystagmus.* Lesions in the central nervous system produce nystagmus by disturbing the vestibular nuclei or its tracts. Central nystagmus may be horizontal, vertical, or rotary. Vertical and rotary nystagmus are believed to result from direct involvement of the vestibular nuclei. Lesions in selected portions of the vestibular nuclei have been identified as being responsible for vertical and rotary nystagmus, but there is not universal acceptance of these localizations. In contrast to labyrinthine nystagmus, vertigo is an uncommon symptom in central nystagmus. Another differentiating point is that central nystagmus persists for an indefinite period in contrast to labyrinthine nystagmus which tends to diminish with time.

Central nystagmus may arise from lesions in the midbrain, pons, medulla and cerebellopontine angle. The more common lesions are tumors, inflammatory lesions, vascular accidents and multiple sclerosis. These diseases produce, as a rule, paralytic rather than irritative phenomena, and hence the deviation of the eyes is toward the same side as the lesion. When such a paralytic effect begins, it starts with nystagmoid movements. The slow phase is toward the side of the lesion, and the quick corrective phase away from the side of the lesion. As the disease advances, the nystagmus may become more gross until there is a complete loss of the corrective quick phase and the eyes remain constantly turned to the affected side—conjugate gaze palsy.

Nystagmus is frequently present in cerebellar tumors and abscesses. The nystagmus is usually of the horizontal variety and is probably due to an interference of connections with the vestibular nuclei. The pattern of oscillations varies with the position of the eyes and may disappear almost completely as gaze changes to one side of the midline. The quick component is said to be characteristically toward the affected side, but this is not always the case.

Special localizing signs may be present in involvement of the posterior longitudinal fasiculus, but it is outside of the scope of this paper to discuss these. Usually other signs of central nervous system disease are present in central nystagmus.

Other Forms of Nystagmus

There are certain rare forms of nystagmus such as miner's nystagmus thought to be due to decreased illumination, toxic nystagmus, voluntary nystagmus and hysterical nystagmus. They are usually of little concern to the general practitioner.

Summary

In differentiating nystagmus the following points should be considered:

1) Age of onset of nystagmus.

2) Vision.

3) Type of movement—pendular or jerky. Horizontal, rotary or vertical.

4) Amplitude of movements.

5) Position of gaze in which nystagmus is present.

6) Associated symptoms and findings.

By utilizing this approach one can frequently separate nystagmus into either ocular, hereditary, labyrinthine, central or physiologic types. (see Table 1) Such a separation will allow the practitioner to intelligently advise, treat and properly refer patients with nystagmus.

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Prognosis of Intermittent Claudication

"Intermittent claudication is generally regarded as a chronic but rather annoying symptom which is not of serious prognostic significance. This study of a select series of 60 patients, all of whom have been followed for at least five years or to death, indicates that claudication is often the first symptom of general cardiovascular disease which may prove fatal within a few years. The prognosis as regards life, however, is not as serious as that of angina pectoris or that of myocardial infarction from which the patient has apparently made a good immediate recovery. The outlook so far as the claudication itself is concerned, and also for the affected limb or limbs, is probably better than is generally realized, and as time goes on the patient is more likely to be disabled by the effects of coronary or cerebral arterial disease than by his peripheral arterial disease. These facts must be taken into consideration when any direct surgical approach to the treatment of intermittent claudication, such as arterial grafting, is being planned."

R. L. Richards
British Medical Journal

The Development of

A Philosophy of Medical

An efficient philosophy of living is essential for one to enjoy a useful life. This is no less true in medicine than in any other calling or profession.

Some people and situations are easy to deal with anytime, but on the other hand the opposite is frequently true. The difficult people and difficult situations which involve them, and thus us, as disciples of medicine as we work with them, demand a flexible and workable attitude on our part otherwise it is easy for us to be overwhelmed by frustrations and our efforts to aid them become of no avail.

There are some situations which we can never solve nor resolve and yet we must live with them for a long time. There are the illnesses of months' or years' duration which are either due to the natural course of a given disease, or able, to relinquish his grasp upon an affliction. Encountering too many situations of this nature in any given period of time, places a great strain on the physician, and will soon reveal flaws in what he might have considered to be an imperturbable bulwark of self confidence residing within himself. It is entirely possible in some instances that incompatibility in personalities of the physician and patient may obviate any successful therapeutic regimen being established. A diplomatic referral to another physician is indicated under such conditions.

I can best illustrate from difficult experiences by using actual cases or type cases with which I have had to deal over the years:

Case No. 1 is that of a woman I have treated off and on for eighteen years. She has had three successive marriages, each unhappy. Her first husband had already left when I first became acquainted with her. It seems that he had a weakness for the bottle which caused the parting. She had the two small children to raise. The insecurities, fears, frustrations incident to the foregoing led to severe headaches and vomiting spells. Heavy sedation and intravenous fluids were required frequently. A sense of exasperation, frustration, and futility enveloped me to such an extent that I finally advised her not to call me any more as it was wasting my time and her money. Finally she did quit calling for about two years.

She then married husband number two, who himself had been divorced, and his fault lay in that he had a roving

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Practice

eye and appreciation for feminine pulchritude wherever it might be found. The resultant friction produced a recurrence of the headaches and a retrial of my services (after a rest of two years referred to above). This time I was a little more mature and able to go along with her without exhibiting as much impatience as in earlier years, but still I was not patient enough. The second marriage lasted only a short time and with his parting and the fact that her children had become older, she settled down for a while with only an occasional headache which required medication.

Husband number three was perhaps the severest test of all for her. This was conceivably her greatest misadventure into matrimony for while in his sober moments he was quite considerate and easy to get along with, he too would upon occasion, become inebriated and often visited physical violence upon her. One episode disabled her for several months. Furthermore he accused her of extra marital amorous adventures and while I did not believe he meant it, he must have, for one day he aimed a few pistol shots (non-effective) in the general direction of the man he was jealous of. He was sent to prison and this led to further apprehension on her part for fear of his seeking vengeance when he would be released.

In summary of this case then, it was obvious that here was a woman who could hardly be expected to live a tranquil life. She would have to have treatment including sedatives and sympathy occasionally. So after many years I finally learned to view her situation philosophically and to respond to her calls in the most patient manner possible, realizing that I could work no miracle but could be of little help to her.

Case No. 2 would really be a group of cases, namely, the chronic drinkers or downright alcoholics. Concerning this group may I say that not every physician has the temperament to deal with these patients adequately. I for one do not. We cannot refer them *all*, however, and some association with, and treatment of, these individuals as inevitable. My approach for a long time was of course exactly wrong as one would expect. I would argue with, try to reason with, or moralize with such people while they were intoxicated. This was futile and only exaggerated at best already strained relations.

One of these men stayed drunk nearly

all the time. He made life miserable for his family. I could never persuade him to obtain institutional care nor influence his family to have him committed. After some years of frustrations I finally had to settle with giving him an emetic potion whenever he got too bad and offering such sympathy and comfort to his family as I could. Many times he has actually been in position to cause tragedy in the family by indiscriminate wielding of a loaded gun with threats of violence to them. He may yet accomplish some such results, but I have ceased to worry about it for I have exhausted every source I know of to alleviate the situation.

One thing is sure, I never have seen an alcoholic who could be frightened by predictions of dire results such as cirrhosis of the liver, etc., which he might bring upon himself.

A third group of cases which I will mention is entirely different from the foregoing but nonetheless tax the ingenuity of the physician:

Before I proceed with a discussion of this type of patient, I must pause for a moment to pay tribute to a special group of people who usually attend them, who stand high in the ranks of unsung heroes of this world. They are usually middle aged women, usually unmarried, who have given up a life of their own to care for aging parents who tardily travel death's way. To my way of thinking there is hardly anything more discouraging to everyone concerned than the general over-all management of the slowly "petering out" brain. This calls for more than any medical skill which the best of us may possess, for the greatest medical skill can avail little in the relentless progress of this dread devastating pathological process.

First of all the physician must be cognizant of what he is dealing with. We *cannot* cure these people, but we must treat them. Patience, kindness, and love for humanity are the cardinal attributes one must possess in order to help the patient and the *family* of the patient.

Helping the family of such a patient is of prime importance because almost invariably the patient becomes incorrigible from time to time, and turns almost vicious in his attitude toward the most beloved ones in his family and the ones who are doing the most for him. Unless the loved ones understand the nature of the disease, they will easily become very hurt and become the prey of feelings of frustration and resentment.

I am repeatedly impressed by the tenacity with which patients in this category cling to life, especially those in the older age groups. They must have supportive treatment even in the form of parenteral fluids from time to time when it can help. Diet is nearly always a problem. One has to individualize here and do the best one can. Close care of bladder and bowel function and especially of the skin to prevent sores is an ever present problem. A great deal of medicine is not indicated. There is no point in "overtreating" these people.

With the years one gains experience as to what the optimum care is, but patience and kindness are the watchwords and when one acquires this, one experiences a soul warming feeling of accomplishment in doing the best one can in the face of prohibitive odds.

Clinic Building
Commerce Street

Management of Addictions

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In this paper diagnosis of addiction will be limited to those instances where physical dependence and an abstinence syndrome occurs. The opiates, the "opioids," the barbiturates, the "barbitoids," and alcohol will be considered. General principles of immediate management will be outlined. The "opioids" are non-opiates which have an opiate-like action—meperidine and methadone. The "barbitoids" are non-barbiturates which have a barbiturate-like action—meprobomate and glutethimide.

Opiates and "Opioids" That a person who has taken morphine regularly for several weeks becomes ill when he stops taking the drug has been known for a long time. The illness is of varying degree and in the occasional case is fatal. This syndrome is not limited to morphine addiction. It occurs on abrupt discontinuance of the other commonly used opiates and also in the case of "opioids."

The abstinence syndrome in the case of opiate or "opioid" withdrawal, when of severe degree and roughly in order of appearance, manifests the following signs:[1] yawning, perspiration, lacrimation, rhinorrhea, mydriasis gooseflesh, twitches, hot and cold flashes, aching muscles, anorexia, insomnia, increased blood pressure, increased pulse rate, restlessness, nausea, febrile facies, vomiting, diarrhea, weight loss, coma, and collapse.

The diagnosis in the uncomplicated case is not difficult if the possibility is kept in mind. Prompt disappearance of all signs follows the administration of morphine.

Treatment is relatively simple. After the patient has been stabilized on morphine he is shifted to methadone, or methadone and morphine for twenty-four hours, using 1 mgm. of methadone for every 3 mgms. of morphine, then stopping the morphine and reducing the methadone to zero over a period of a week or ten days.[2] Methadone is effective orally and a dose lasts about twelve hours. Addiction to methadone does occur so that it is necessary to discontinue that drug at the earliest date. The patient switched to methadone, particularly too large a dose of methadone, may suffer respiratory depression, dizziness, nausea, vomiting, or sweating. This sensitivity to methadone makes it mandatory that the next dose be much smaller. Ordinary doses of barbiturate at bed time for a few days are of help in combating insomnia.

The management of the abstinence syndrome of opiate addiction is rather difficult on an out-patient basis in this country because by and large the average such addict is too unstable emotionally and too beautifully satisfied by the opiate to be wholeheartedly cooperative. There is moreover a long stand-

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ing recommendation of the American Medical Association against it.[3]

Management as an in-patient in a general hospital is feasible in many cases. Some cases can be handled only in special hospitals. Private hospitals, some State hospitals, and two Federal hospitals are available for this purpose. The Federal hospitals are the U. S. Public Health Service Hospitals and are located at Lexington, Kentucky, and Fort Worth, Texas. Voluntary admission to either of these can be arranged by communicating with the Medical Officer in charge of the respective hospital. The length of stay at a special hospital should be left to the staff of the hospital.

Barbiturates and Barbitoids The first adequately documented case of death due to barbiturate abstinence syndrome occurred in a doctor who gave a history of codeine addiction but denied the use of barbiturates.[4] After his death following a series of grand mal seizures his wife supplied the information that he had been taking up to fifty capsules of seconal a day along with his codeine.

Glutethimide being non-narcotic and non-barbiturate can nevertheless be addicting. The first case to prove this was reported about a year ago.[5] The patient had a series of grand mal seizures starting sixteen hours after she stopped using the drug. She was treated as though she had an abstinence due to barbiturates and made an uneventful recovery. Meprobamate simulates the barbiturates in the matter of producing addiction.[6] The abstinence syndrome can be prevented by slow decreases in the dosage.

The abstinence syndrome of barbiturate or barbitoid addiction when of severe degree manifests the following signs, roughly in order of appearance: a disappearance of signs of intoxication, then weakness, tremor, great anxiety, nausea, vomiting, rapid loss of weight, fever, postural hypotension, convulsions of grand mal type, and/or psychosis which resembles delirium tremens.

Treatment[6] is simple if started early. The patient must be rapidly reintoxicated to the point where he is slightly drowsy but easily arousable. Note must be taken of the amount of barbiturate necessary during the first twenty-four hour period to accomplish this first step. Barbiturate dosage is then reduced at a rate not more rapidly than 0.1 gram per day. Thus, if it is necessary to use 2.0 grams of barbiturate the first day withdrawal takes twenty days.

Cases can be managed in general hospitals. When emotional instability is of marked degree special hospitalization is advisable. The Federal hospitals cannot admit barbiturate cases unless they are also addicted to opiates. Where there is addiction to both barbiturate drugs and opiates the abstinence syndromes can be treated simultaneously.

Alcohol Convulsions and delirium tremens in the alcoholic are due not to intoxication with alcohol but to reduced intake of alcohol.[7] They are a part of the abstinence syndrome. Treatment is essentially that of the barbiturate abstinence syndrome i.e., intoxication with a barbiturate (or paraldehyde) followed by gradual reduction.

Discussion In our way of life most individuals who become addicted to a drug do so in part at least because of emotional instability. The drug selected satisfies an addiction proneness in a most tranquilizing manner. Until we have a much clearer concept of just what addiction proneness is we should manage addicts as emotionally handi-

capped individuals. Not all the emotionally disturbed are addiction prone but a significant fraction of them are. The occasional well adjusted individual derives better than average satisfaction from his first dose of opiate or barbiturate. It may well be that in our intensified effort to find better tranquilizers we will find one or more that are effective and yet non-addicting.

All of the addicting drugs have a place in the practice of medicine. A complete reluctance to prescribe any of them even when indications are clear denies many patients the good medical care to which they are entitled. In the overall, opiates, the opioids, the barbiturates, and the barbitoids do much more good than harm. Because of the very wide use of alcohol it is probably correct to say that alcohol does more good than harm. It is the overdoing that leads to difficulty and eventually to abstinence syndromes.

Meperidine is of particular interest to doctors. Too many still believe that since this is not an opiate, that it is not addicting. As a matter of fact, meperidine is more rapidly addicting than morphine.[9] Users of meperidine not infrequently have impairment of vision, confusion, muscle twitching, and even convulsions. Doctors seem to have a stronger than average proneness to addiction to meperidine. Some go that route after finding alcohol incompatible with the practice of medicine and some I have known use meperidine to avoid either suicide or homicide. The choice of meperidine in the latter instance may perhaps be a reasonable expedient.

Summary

The opiates, the "opioids," the barbiturates, the "barbitoids," and alcohol are addicting. The management of the abstinence syndromes has been outlined.

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Intrathecal Fluorohydrocortisone

This report deals with the clinical results of treatment following subarachnoid administration of a soluble preparation of fluorohydrocortisone in two patients who had a multiple sclerosis syndrome. Included are follow-up notes, examinations, and an outline of treatment with periodic intraspinal injections of hydrocortisone crystals given over a period of approximately two years and one year respectively in each patient.

The reasons for selecting the subarachnoid space as the route for the administration of anti-inflammatory steroids has been published in detail elsewhere.[1] In summary, the reasoning was based on the fact that the central nervous system is contained in a closed space with high threshold levels for steroids at the blood-brain barrier. The high threshold level was assumed to account for the inconsistent or poor results of treatment obtained following the parenteral administration of ACTH, or orally administered corticoids. Large quantities of circulating steroids would be necessary to exceed the threshold and gain entrance to the nervous system to produce a favorable clinical response. The results obtained following this form of therapy are usually short lasting, and metabolically expensive, as they are often associated with the therapeutic paradox of hormonal imbalance and Cushing's syndrome as will be shown below.

This report, as well as the findings in a previously published case report,[2] offers additional evidence for the validity of the above reasoning, inasmuch as the patients were unsuccessfully treated with parenteral ACTH and/or oral steroid therapy and were considered hopeless prior to receiving treatment by the intrathecal route. These findings, though encouraging, only merit mention since a larger series of patients studied over a longer period of time will be necessary before any definite conclusions can be drawn.

The estimation of the results of treatment were based on the objective findings of the clinical neurological examination, including subjective evaluation and motion pictures. The pertinent objective and subjective findings of the clinical neurological examination are tabulated below for the sake of brevity and ease of the overall objective evaluation of clinical progress. The progress of each patient is recorded on a point

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1. J. Amer. Ger. Soc., Nov. 1953.
2. Med. Times, May 1957.
3. Operative and autopsy evidence for injury to the meningeal membranes following a series of subarachnoid injections of crystals of hydrocortisone could not be demonstrated (to be submitted for publication).

and Multiple Sclerosis

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system basis. A single point is given for each pathological neurological finding. Scoring during treatment is obvious; a point given for the presence of each pathological neurological finding. A point is subtracted on the disappearance of a sign. Half points can be given to signify slight improvement, or when a pathological sign is difficult to elicit. No points are given for absence of neurological signs. Progress at each examination may be expressed in total points or percentage change.

Materials and Methods There was no set plan or standardized course of treatment. The intrathecal therapeutic effective dose of anti-inflammatory steroids is unknown. Placebo control studies were considered unnecessary since both patients were too ill and too mentally disturbed. Spinal treatments were administered on an "in patient" basis. There were no untoward or adverse systemic effects or objective evidence of edema.[8]

The initial course of treatment consisted of a spinal injection of a soluble preparation of 9-alpha-fluorohydrocortisone free alcohol, given approximately every other day for a series of six injections.

A second series of two to three injections was given approximately two months later. Thereafter, a single spinal injection of crystals of the hydrocortisone free alcohol mixture in suspending agents was given approximately every two months or more, depending on the clinical picture. Injections were limited to the lumbar region and the site of injection varied with each treatment. Acthar-Gel® was given in single doses, deep subcutaneously and concurrently with each spinal injection. Antibiotic antibacterial therapy, or chemotherapy, was used routinely throughout treatment.

On discharge from the hospital following the initial and second series of spinal treatments, the patients were told not to be alarmed, and to expect marked weakness, a washed-out feeling, decreased motor function, and a possible headache over a period of ten days to two weeks. They were advised to remain in bed during this period of time.

One patient received intrathecal injections of pooled gamma globulin without "complement" immediately following each intrathecal injection of fluorohydrocortisone for a total of five injections during the first series. This was given on an empirical basis in the hope that gamma globulin contained a specific unknown substance which might

be effective against the causative factor of multiple sclerosis.

Diet The following daily allowance of *unsalted fresh food* was rigidly enforced, starting one month approximately before spinal treatments and continued indefinitely thereafter. Each day the patient was required to eat one pound of fresh meat, broiled, boiled or roasted, and one serving each of green, white or yellow, vegetables. White vegetables consisted of baked potato or boiled rice. Four slices of salt-free white bread, two boiled or poached eggs, and fruit for dessert were allowed. Fluids were limited to 1500 cubic centimeters per day. Dairy products were strictly forbidden. Laxatives were not permitted; tap water enemas were given for constipation. This special diet was aimed at supplying the increased demands for nutrients necessary for repair of tissue damage, as well as supplying electrolytes in a physiological ratio. A normal electrolyte balance in the damaged tissue was considered essential for the control of edema which could interfere with normal metabolic functions.

Vitamins The patient had the choice of selecting any therapeutic brand formula which did not contain supplementary mineral. One capsule or tablet was taken three times a day daily.

"Calscorbate"® One tablet dissolved under tongue one half hour before meals daily.

Fluorohydrocortisone, free alcohol With 1-2 percent novocaine as local anesthesia, the lumbar subarachnoid space was entered using a #19 or #20 gauge spinal needle. Following manometric readings and the obtaining of spinal fluid for laboratory examination, a 10 cubic centimeter syringe containing the dose of fluorohydrocortisone to be administered was then attached to the spinal needle and spinal fluid aspirated to the 10 milliliter mark. The solution was thoroughly mixed and the syringe re-attached to the spinal needle. This was injected slowly and carefully. Following, and alternating with each 0.4 ml. injection, approximately 0.2 ml. of spinal fluid was aspirated back into the syringe. Frequent aspiration and re-injection of the solution was continued until the contents of the syringe was administered. Rapid administration of the solution-mixture may be associated with local, short-lasting pain. Following each spinal treatment, the patient was then instructed to remain in bed in the horizontal position without a pillow for twenty-four to forty-eight hours to avoid headache.

Hydrocortisone Crystals The suspension of hydrocortisone was administered intrathecally after mixing with 1-2 ml. of spinal fluid. It was given slowly and without frequent aspiration and reinjection in the low lumbar region Fol-

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ACTHAR-GEL-H.P.® (Armour) Each milliliter of gelatin contained forty U.S.P. units of adrenocorticotropic hormone. This was given on an empirical basis to prevent any possible allergic reaction and also to offset corticogenic hypopituitarism.

Hydrocortisone, free alcohol (microcrystals in suspending agents). The author's formulation was prepared by Merck and Company, Rahway, New Jersey. Each milliliter contained approximately 100 milligrams of steroid.

9-alpha-fluorohydrocortisone, free alcohol (bulk). This was supplied by Squibb Institute, New Brunswick, New Jersey. The solution of fluorohydrocortisone free alcohol was prepared by the author. The solvent consists of small amounts of ethanol, glucose and "special gelatin for intravenous use", made up to contain approximately 2 milligrams of steroid per milliliter.

The "special gelatin for intravenous use" was supplied by the Knox Gelatin Company, Camden, New Jersey.

Gamma Globulin, Lot #2167-119A, Lederle Laboratories, Pearl River, New York.

lowing injection, the patient was instructed to remain in the horizonal position in bed without a pillow for twenty-four to forty-eight hours.

Physiotherapy and Sunbathing at any time were strictly forbidden.

CASE REPORTS

Case Record 1 Mrs. M.S., age 29, (parents acted as historians) was first seen on September 21, 1955

1951—Sudden onset of numbness of both hands lasting for six weeks.

1953—Sudden onset of numbness of whole right side of body lasting six weeks.

1953-1954—Free of symptoms for one year.

1954 (March)—Sudden onset of paralysis of right leg. The patient was hospitalized and received fifteen daily intravenous injections of ACTH. After the third intravenous injection, the right leg appeared normal and symptom-free. However, toward the end of the treatment, numbness of left hand and face, without tingling, was noticed. This lasted about one week and then disappeared.

1954 (March to October)—Pregnant and symptom-free.

1954 (October)—Normal, spontaneous delivery of an eight month, 5 pound boy. Five to seven days after the patient's discharge from the hospital, a loss of balance developed and her legs felt stiff and cold. This has never disappeared.

1954 (December)—There was an onset of intractable nausea and vomiting. There was incoherence and repeated grand-mal type seizures lasting four to five days. Incontinence of urine and feces started with the above fits and continued to March 1955.

1955 (January)—Pyelitis with fever. No convulsive seizures.

1955 (January)—Onset of aphonia, numbness, with complete loss of motor function in four extremities that lasted for approximately seven weeks. Following a course of intravenous ACTH and histamine, there was slight and gradual improvement to a point where numbness and aphonia disappeared, and the patient could stand with assistance.

1955 (March)—Two months pregnant. Therapeutic abortion and sterilization performed. Meticorten® was started. There was steady improvement with complete control of the passage of urine, and the patient could walk with aid of a cane.

1955 (June)—Onset of Cushing's syndrome. Huge doses of Meticorten were necessary to maintain improvement. Increased tolerance and rapidly progressive Cushing's syndrome forced discontinuance of the steroid.

1955 (July)—Difficulty in walking, which had persisted during Meticorten therapy, worsened and was associated with dizziness and double vision which has continued.

1955 (August through September)—There was inability to walk even with assistance; onset of scanning speech; emotional upsets present since February 1955 became more frequent and vision was now blurred in both eyes. There was

TABLE 1 OBJECTIVE PATHOLOGIC-NEUROLOGIC FINDINGS (patient M.S.)

DATE		1955 9/21	10/19	11/11	1956 1/6	3/28	7/30	1957 1/11	4/2	8/19	11/15
Moon Facies		+	+	+	±						
Hirsutism		+	+	+	+	+	±	±	±	±	±
Speech		+	+	±							
Memory defects		+	+								
Acne		+	+	±							
Gait		+	+	±	±	±	±	±	±	±	±
Romberg		+	+	+	+	+	+	+	+	+	±
Tremor	R	+	+	+							
	L	+	+	+	±						
Static Ataxia	R	+	+	+							
	L	+	+	+	±						
Adiodochokinesis	R	+	+	+							
	L	+	+	+	+	+	+	+	+	+	+
Heel to Shin	R	+	+	+	±				±		
	L	+	+	+	+	+	+	+	+	+	+
Rigidity	R L Ext	+	+								
	L L Ext	+	+								
Hoffman	R	+	+	±							
	L	+	+	±	+		±	±	±		
Babinski	R	±	±	±							
	L	±	±	±	±					±	
Clonus ankle	R	+	+	+	±	±					
	L	+	+	±	+	±					
Clonus patella	R	+	+	+							
	L	+	+	+	±	±					
Abdominals	RU	+	+	+	±	+	+	+	+	+	±
	RL	+	+	+	±	+	+	+	+	+	±
	LU	+	+	±	±	±		+	+	±	±
	LL	+	+	±	±	±		+	+	±	±
Vibratory Sense	RL	+	+						+		
	LL	+	+	±			±		+		
Nystagmus	R LAT	+	+	+							
	L LAT	+	+	+	±		±				
	UPPARD	+	+	+							
Facial Paralysis	L	+	+	+							
Tongue Deviation	R	+	+	+							
TOTAL POINTS		35	35	26½	12½	9	7½	8½	11	7½	5½

+ = Pathologic Neurologic Finding ± = Questionable Neurologic Finding

TABLE 2 SUBJECTIVE FINDINGS (patient M.S.)

DATE		1955 9/21	10/19	11/11	1956 1/6	3/28	7/30	1957 1/11	4/2	8/19	11/15
Vision—blurred		+	+	±							
Swallow—Difficult with nasal regurgitation		+	+								
Incontinence	Urine	+	+								
	Feces	+	+								
Girdle Sense—thoracic		+	+	+							
Paresthesia—	Fingers	+	+	+	±	±	±		+		
	Toes	+	+	+	±	±	±		+		
Numbness	Hands	+	+	+	±	±	±		+		
	Feet	+	+	+	±	±	±		+		
Skilled acts		+	+	±	±	±	±	±	±	±	
Emotional upsets		+	+	±	±		±	±	±	±	
Drives automobile		+	+	+	+	+					
Double vision and dizziness		+	+								
TOTAL POINTS		13	13	7.5	4	3.5	3.0	1.0	5.0	1.0	0

+ = Pathologic Neurologic Finding ± = Questionable Neurologic Finding

an inability to read; difficulty in swallowing with regurgitation of liquids through nose; incontinent urine and feces; thoracic girdle sensation; tingling sensation with numbness of both hands and feet, more noticeable in right hand and left foot; skilled acts impaired with inability to write, dress or feed self. The patient stated that she was contemplating suicide. The family physician and consultants recommended institutional care.

Systemic Review Not remarkable except that while having the usual childhood diseases, measles occurred at age nineteen and was associated with fever of 102-103°F. No history of complications. Appendectomy, age seventeen. Father and maternal grandfather, diabetic. No history of any other serious illness.

Findings on Examination September 21, 1955: There were memory defects for time and recent events. There were frequent and uncontrolled bursts of spontaneous crying. Speech was scanning. There were numerous scattered acneiform and pustular lesions and a moon-like facies. There was a well-defined moustache and a sparse, coarse-haired beard. Thyroid isthmus was palpable and soft. The liver was not palpable. There was no edema.

Motor function intact, although motor function performance was associated with an intention tremor in four extremities, which made standing and walking difficult even with assistance. The Romberg test was positive. Muscle strength was approximately to be about seventy-five percent normal in both upper and lower extremities. Lack of cooperation made evaluation of rigidity difficult. Deep reflexes were hyperactive

TREATMENT DURING FIRST HOSPITAL ADMISSION

	10/20	10/22	10/24	10/26	10/28	10/30
Fluorohydrocortisone ...	3 mgm	4 mgm	5.5 mgm	5.5 mgm	6 mgm	5 mgm
Gamma Globulin	1.0 ml	1.0 ml	1.0 ml	1.0 ml	1.5 ml	—
ACTHAR-GEL	U40	U40	U40	U40	U40	U20

and there was a bilateral positive Hoffman, ankle and patellar clonus. There was a questionable Babinski toe sign. Abdominal reflexes were absent. Vibratory sense could not be evaluated. Finger to nose, and heel to shin, bilaterally, were grossly impaired. Fundi revealed bilateral optic atrophy. There was dissociation of conjugate movement and nystagmus on upward and lateral gaze. Partial left facial paralysis and tongue deviated slightly to the right.

The patient was placed on a rigid diet (outlined above) for one month prior to admission to hospital for spinal treatments.

FIRST HOSPITAL ADMISSION October 19, 1955.

The pathological neurological findings were approximately the same as on initial examination, except no acne. Definite and slight rigidity of both lower extremities. During hospitalization, the patient received treatment as shown in the table above.

Discharge Examination November 11, 1955: Moon facies and hirsutism persists. Physiological control of bladder and bowel is about fifty percent better; no dizziness or diplopia was found. The patient can read small print with difficulty, vision slightly blurred; no difficulty swallowing; her speech is understandable; she has minimal scanning. A slight intention tremor persists. Can partially feed self and drink from a glass. She can get in and out of bed and walk holding on to close objects. Hoffman and Babinski tests questionably positive. Ankle clonus exhausted on left, persistent on right. There was no rigidity. Left upper and lower abdominal reflexes were present; the others were absent. Vibratory sense was present but impaired on the left. Nystagmus occurred on lateral and upward gaze. There was no disassociation of conjugate movement. Bilateral optic atrophy was present. No change in other pathological neurological findings were noted.

Laboratory Findings While the colloidal gold remained essentially unchanged following each spinal treatment (3332111000), the total spinal fluid protein was recorded as 44.8, 40, 46.4, 55 and 79 mgm, percent respectively.

SECOND HOSPITAL ADMISSION January 6, 1956.

The patient stated there had been continuous improvement over the past two months. Spontaneous crying was noticed four times during the past month. She read books constantly. There was no difficulty in swallowing. She fed herself but buttoned her clothes with difficulty. She complained that her left hand "shook" with the performance of skilled acts. This was also noticed in her left leg at times when walking. Numbness of hands and feet were still present but not as bad as it was one month ago. No tingling or girdle sensation was recorded. Urinary urgency was present; she voided six times dur-

ing the day. Bowel movements occurred every two to three days and were physiological.

Positive Findings Slight facial rounding and hirsutism were noted. Speech was normal. Gait: when unassisted she walked with unsteadiness. Romberg was positive. Minimal static ataxia was present on left. Adiodochokinesis and impaired heel to shin movement was present on left. Minimal impairment of heel to shin was noted on the right. Hyperactive deep reflexes were present. Hoffman sign was present on the left—ankle clonus on the right; and persistent on left. Nystagmus was noted on left lateral gaze. Bi-temporal pallor of optic discs was seen.

Treatment On January 6 and 8, 1956 the patient received an intrathecal injection of 5 mgms. and 6 mgms. respectively of fluorohydrocortisone mixed with 7.0 ml. spinal fluid. The patient complained of slight local pain throughout the second injection. Aureomycin and ACTHAR-GEL® was administered each day.

Discharge Examination January 13, 1956. Neurological findings were about the same. The patient became slightly depressed and cried easily starting the day following the last injection and gradually subsiding before the time of discharge.

Laboratory Results The urine was acid; specific gravity 1.024; albumin trace; and there were many pus cells. Cephalin flocculation = 2 + in twenty-four hours. Spinal fluid total protein was 46 mgm. percent. Colloidal gold curve was 1110000000.

THIRD HOSPITAL ADMISSION March 28, 1956.

Improvement started three to four weeks after last treatment. Felt stronger. Did not tire as easily. Walked with cane. Cried only once during the past month. Depressed feeling only occasionally. Vision was almost normal. Fed herself but could not cut meat. Numbness and tingling was present in fingers three, four and five of left hand. Feet felt warmer, there was only slight numbness. No girdle sensation or stiffness, or bladder or bowel disturbance were present.

Positive Findings Facies were clear without mooning. Hirsutism persisted. Gait was slightly unsteady. Romberg test was positive. No static ataxia was noted. Adiodochokinesis, and impaired heel to shin test was positive on left. There was a trace of ankle and no patellar clonus on right. There was a trace of patellar and an easily exhausted ankle clonus on left. Left upper and lower abdominal reflexes were present and weak. Hoffman and Babinski reflexes were absent. Vibratory sense was intact. There was no nystagmus. Bi-temporal pallor of optic discs was noted.

Treatment March 30, 1956 intrathecal injection of 50 mgms. hydrocortisone per 1.5 ml. spinal fluid in suspending agents. Achromycin 250 mgm. Q6H. Acthar-Gel U40, March 30; U20 March 31. Patient was discharged April 1, 1956.

Laboratory Findings Spinal fluid: total protein 38 mgm. percent; Colloidal gold 2221000000, 24 hr. Urine Ketosteroids, 12, 10 and 22 mgm. percent on March 29, 30 and 31, 1956.

FOURTH HOSPITAL ADMISSION July 29, 1956.

Rare tingling in finger tips, which was constant in toes, was present. No numbness. Patient was ambulatory. Only used cane out of doors. There was no weakness. Patient read constantly. She cut

her meat. Chief complaint was spontaneous crying four to five times per week.

Positive findings Unsteady gait. Positive Romberg. Adiodochokinesis and impaired heel test to shin on left. Questionable Hoffman reflex on left. Questionable nystagmus on left lateral gaze. No Babinski or clonus. Abdominal reflexes were absent on right.

Treatment July 30, 1956. Intrathecal injection (L_3L_4) 75 mgms. hydrocortisone crystals. 1.5 ml. spinal fluid. Patient had no desire to and did not sleep through the night. She had a craving for sweets. This was associated with a "jittery and irritable feeling" and pronounced tingling in finger tips and toes. This picture quickly disappeared after drinking orange juice and eating sugared grapefruit. Acthar-gel U40. Terramycin Q6H.

Laboratory Findings Total protein 38 mgm. percent. Colloidal gold 2211100000.

Fifth Hospital Admission January 11, 1957.

The patient now very much interested in living. No emotional or sensory complaints were elicited. She had good sphincter control. She walked without a cane. Drove a car. She stated that her left hand was not completely normal.

Positive Findings Slightly unsteady gait. Romberg questionably positive. Adiodochokinesis and impaired heel to shin test on left. Difficult to elicit Hoffman sign on left. Absent abdominal reflexes. Beginning revascularization of upper and lower poles of temporal half of optic disc. No rigidity, clonus or Babinski sign.

Treatment January 12, 1957. Intrathecal injection (L_3L_4) 100 mgms. hydrocortisone crystals. Acthar-gel U40; Aureomycin Q6H.

Laboratory Findings Spinal fluid total protein: 39 mgm. percent. Colloidal gold 3322110000.

Sixth Hospital Admission April 2, 1957.

Onset of tingling sensation started one week ago in thighs and legs and was followed two days later by tingling in both hands. Numbness of both hands and feet started four days ago. This was associated with difficulty in cutting meat and buttoning clothes. Cried easily for past two to three days. Girdle sensation was noticed occasionally.

Menses due two weeks ago; spotted for one day. Period started three days ago, March 30, 1957, with normal flow for two days. Last evening, April 1, 1957, she experienced a massive uterine hemorrhage which soaked her bed. This was associated with the passage of large clots. Breasts were not tender. There was no nausea or vomiting.

Positive Findings Breasts were not remarkable except for slight amount of fluid which was expressed from right nipple. Gait was slightly unsteady with wide base. Could not stand with toes and heels together. Adiodochokinesis was present on left. Impaired heel to shin test on right, grossly impaired on left. Hoffman sign on left, it was difficult to elicit. No Babinski sign or clonus. Absent abdominal reflexes. Vibratory sense absent in both lower extremities.

Treatment Microscopic examination of tissue after dilitation and curretage revealed a proliferative endometrium. Diagnosis: Ovarian dysfunction. On April 4, April 6 and April 8, 1957 the patient received a single intrathecal injection of 50 mgm. of hydrocortisone crystals concurrently with the deep subcutaneous administration of 40 units Acthar-Gel. Terramycin was adminis-

tered in a dose of 250 mgms. every six hours, throughout hospitalization.

Discharge Examination Sensation in legs was almost normal. Hands felt "numb, thick, large and rubbery." She was lightly depressed over the two days before leaving the hospital. Gait, slightly unsteady with normal base. Stands unassisted with toes and heels together. Romberg was positive. There was slight improvement in coordination on left. Hoffman sign was difficult to elicit on left. There was a trace of abdominal reflexes on left. Vibratory sense was absent in both lower extremities.

Laboratory Findings Pregnancy test was negative. Spinal fluid total protein was 34, 22, and 22 mgm. percent April 4, April 6 and April 8, 1957. Colloidal gold was negative.

SEVENTH HOSPITAL ADMISSION August 19, 1957.

Noticeable improvement started about two weeks after discharge from hospital. There was a disappearance of numbness and tingling, and an improvement in coordination and emotions. There were no complaints except that she tired easily, "but not as I used to."

Positive Findings Gait was unsteady with slight widened base. Romberg was positive only with eyes closed. There was no tremor or static ataxia. Adiodochokinesis and impaired heel to shin test was present only on left. No Hoffman sign. Babinski questionably positive on left. Trace of abdominal reflexes on left, absent on right. Vibratory sense was intact. Deep reflexes were normal. No rigidity. No nystagmus. Fundi: slight temporal pallor on left, normal on right. Cranial nerves were intact. The patient had her emotions under control.

Treatment August 21, 1957. Intrathecal injection of 75 mgms. of hydrocortisone crystals. Streptomycin and penicillin.

Laboratory Findings Spinal fluid total protein 26 mgm. percent; colloidal gold 2211110000. Pre-treatment urinary 17-ketosteroid, 8.3 mgm. per 24 hours.

EIGHTH HOSPITAL ADMISSION November 15, 1957.

Patient stated that she felt stronger and did not tire easily. She had no sensory complaints. Bladder and bowels were physiologic. There were no emotional changes. Skilled act performance was about normal. Could walk about four city blocks unaided.

Positive Findings Slightly unsteady with widened base. Romberg was questionably positive. Adiodochokinesis and impaired heel to shin test on left. Trace of right and left upper and lower abdominal reflexes. Fundi: temporal pallor of the disc on the left. No other pathological neurological signs could be elicited.

Treatment Intrathecal injection of 125 milligrams of hydrocortisone crystals. Penicillin and streptomycin. Acthar-Gel, U40, S.C. Patient advised to continue on the prescribed diet and to return in two months for follow-up examination and possible spinal therapy.

Laboratory Results Spinal fluid, colloidal gold test and total protein, 1110000000, and 43 mgm. percent.

Case Record 2 Mrs. M. M., age 37. FIRST HOSPITAL ADMISSION October 20, 1956 (Husband-historian)

The patient was admitted as an emergency because of rapid onset of inability to speak and difficulty in swallowing that was associated with a "Terminal-like" state of complete helplessness, blindness and incontinence of urine and feces.

Past medical history revealed that in 1947, the patient had a sudden left facial weakness, weakness of left arm, difficulty using left hand, coupled with inability to read. Two weeks after onset of her attack, patient spent a day on the beach and was exposed to the sun. On arriving home that evening she experienced a grand mal-type of convulsive seizure. She was hospitalized and an air encephalogram and electroencephalogram were done and showed nothing. Over the next two weeks there was gradual improvement, together with a disappearance of all neurological disturbances. The patient was symptom-free up to May 1956, when there was sudden onset of weakness and loss of function of her left arm and face with rapid progression and involvement of the left leg and right arm. This was associated with visual and bladder disturbances. The patient could not walk, and had not walked up to the time of her admission to this hospital. Through June and July 1956 there was questionable improvement. In August 1956 there was further deterioration with paralysis of the right leg. The patient was admitted to a University hospital where she received intravenous infusions of ACTH and heparin for twenty-eight days. The patient was discharged feeling stronger with slight improvement in vision. However, inability to walk and incontinence continued. The diagnosis of brain stem tumor was considered. Approximately one week to ten days following the intravenous ACTH, there was a precipitous deterioration in the patient's condition. The family was advised by their physicians that the patient was going to die and nothing more could be done.

Positive Findings B.P. 105/75; P 120 and regular. A moon face and facial hirsutism was present. No edema was noted. Incontinence of urine and feces was present. The patient could not speak. She was completely helpless except that she could partially flex her left arm at the elbow and her left leg at knee. She could partially flex the fingers of her left hand. She could not touch her nose with her left hand. She could bring her hand only to chest level, and this was associated with a wide oscillatory movement. Otherwise she was without motor function.

There was pseudo-opisthotonous: head was tilted slightly backward and immobile. Eyes were fixed in the neutral position. Both pupils were round and widely dilated. The right arm was rigid and fixed in a flexed position at the elbow with fingers rigidly grasping the thumb of the same hand. There was marked extensor rigidity of back muscles and both legs. Both feet were rigidly held in a plantar flexed position. Hoffman's sign was positive bilaterally. Babinski's sign, clonus, sensory signs could not be evaluated. Abdominal reflexes were absent. Fundi: discs were pale and edematous. Pupils reacted slightly to light. There was a right complete facial paralysis. Tongue protruded with difficulty, deviated to left.

Treatment On October 21, 23, 25, 27, 29 and 31, 1956, 2, 2, 2, 4, 5 and 3 mgm. of fluorohydrocortisone respectively were injected into the lumbar subarachnoid space. ACTHAR-Gel was given concurrently in 40 unit doses, deep subcutaneously, and repeated in single 20 unit doses every other day when no spinal treatment was given. Following the last spinal treatment, ACTHAR-Gel was given daily in single injections, decreasing the dose to 10

TABLE 3 OBJECTIVE PATHOLOGIC NEUROLOGIC FINDINGS (patient M.M.)

DATE			1956 10/20	11/3	12/30	1957 3/8	5/5	11/14
Moon face			+	+				
Hirsutism			+	+				
Aphonia			+	±	±	±		
Swallowing difficulty			+	±	±	±		
Incontinance	Urine		+	±				
	Feces		+					
Motor Function Loss	Head		+					
	Arm	R	+	±	±	±		
		L	±					
	Fingers	R	+	+				
	Leg	L	±	±				
		R	+	±				
	Toes	L	±					
	Turn over	R	+	+	+	±	±	
	Sit up	L	+	+	+	±	±	
			+	+	+	+	±	
			+	+	+	±	±	±
Tremor		R & L	?	?	++			
Static Ataxia		R	?	?	+	+	+	±
		L	+	+	+	+	+	±
Adiodochokinesis		R & L	?	?	++	++	++	++
Heel to Shin		R & L	?	?	++	++	++	±±
Rigidity of Extremity		RU & RL	++	±±				
		LU & LL	++	±±				
Hoffman		R & L	++	++	++	++	++	++
Babinski		R & L	?	?	?	?	?	?
Ankle Clonus		R & L	?	?	?	?	?	++
Abdominals		RU & RL	++	++		++		
		LU & LL	++	±±				
Vibratory Sense		LU	?	+	+		+	
Gaze inability		L	+	+				
		R	+	±	±	±	±	±
		U	+	+	±	±	±	±
		D	+	±				
Facial paralysis		R	+	+	±	±		
		L					±	±
Tongue Deviation		L	+	+			±	±
Blindness			+	±	±			
Color Blindness			?	?	+			
TOTAL POINTS			33½	24½	19½	15½	13	10½

+ = Pathologic Neurologic Finding ± = Questionable Neurologic Finding

units. During the hospital stay the patient received: potassium chloride. grams 1.0, AM and PM; Terramycin,® grams 0.250 every six hours; Furadantin,® grams 0.100 after meals and at bedtime. On November 1, 1956 "Calscorbate"® was started with instructions to place one tablet under the tongue one-half hour before meals, this to be continued indefinitely.

Discharge Examination November 3, 1956: Speech, nasal; swallowing almost normal. Disoriented as to time and place. (As speech returned, following the first three injections, there were obvious memory defects for time and place). Could not differentiate left from right. Her vision improved; she could identify simple large objects, but could not read. Urinary urgency with an occasional accident was present. She could almost maintain a sitting position when placed that way. She held her head up, and could turn head to right and left. She could raise her head off bed. She could raise left arm over head and fully flex her left knee and the fingers on the left. She flexed her right arm and leg slightly. Her feet were fixed in plantar flexion. Muscular rigidity was minimal. Hoffman's sign was positive bilaterally. Babinski's toe sign and clonus could not be elicited. Vibratory sense was absent in left upper extremity. Left upper and lower abdominal reflexes were present; right abdominal reflexes were absent. Movement of the eyes upward and to the left was absent. There was slow movement downward and to the right. Pupils dilated and reacted well to light. Fundi appeared unchanged from previous examination.

Laboratory Results Spinal fluid total protein was 86, 80.5, 53, 55 mgm. percent on October 21, 23, 25, 29 respectively. Spinal fluid for laboratory examination on October 27 and 31, 1956 were discarded because of a bloody tap. The colloidal gold test was negative in all specimens examined.

SECOND HOSPITAL ADMISSION December 30, 1956

Slow and steady improvement in vision (watches television), motor function normal in right arm. Almost complete control of bladder is present. Patient is color blind. Has no sensory complaints. Approximately one month ago the patient experienced a head cold which lasted for approximately one week. During that time, the voice became very weak and swallowing difficult. There has been slight improvement since then, but the difficulty persists. Cannot drink from straw.

Positive Findings No hirsutism or moon face. Voice, weak, speech nasal. Motor function intact, except for constant plantar flexion of both feet. An incomplete right facial paralysis was noted. Tongue was in midline but it was difficult for the patient to protrude it beyond the teeth. Conjugate movement of eyes was present but was impaired downward and to the left. Intention tremor present in the four extremities. There was no rigidity. A bilateral positive Hoffman was present. Babinski reaction and clonus was not elicited (constant flexion deformity). Vibratory sense was absent in left upper extremity. Abdominal reflexes were present. There was no edema of optic discs. Minimal bi-temporal pallor was noted. Deep reflexes were hyperactive except for hyperactivity in the right lower extremity. Does not grasp thumb on right.

Treatment On December 31, 1956,

January 2 and 4, 1957, 4.5, 5/0 and 5/0 and 5/0 mgms. respectively of fluorohydrocortisone were injected intrathecally. ACTHAR-Gel, 40 units, was given concurrently and deep in the subcutaneous tissue. Thus this was followed by daily decreasing doses of ten units following the last spinal treatment.

The patient became extremely thirsty approximately 18 hours after the first spinal treatment. This gradually subsided during the period of hospitalization. Urinalysis on January 2 and January 4 was not remarkable but on January 3, 1957 the specific gravity was 1.037; albumin, 1+; sugar, trace; the sediment was loaded with amorphous urates.

Discharge Examination January 5, 1957. The voice was strong. Speech and swallowing were normal. Can feel food in mouth. Taste, now present (volunteered could only feel hot and cold before). Bowel and bladder function normal. Still slightly thirsty and feels slightly "jittery." Eyes can gaze in all directions with slight impairment. Patient can distinguish colors. Patient can turn over in bed and raise self up on elbows. Protrudes tongue fully with slight deviation to left. Neurologic picture was otherwise the same as at entry to the hospital.

THIRD HOSPITAL ADMISSION March 8, 1957

Continued slow and steady improvement in vision, bladder and motor function had occurred. However, starting about two weeks ago, there has been slight and persistent weakness in voice and a little difficulty in swallowing. There was no color blindness.

Positive Findings: Rose almost to sitting position from horizontal. Can flex both knees to chest. Flexed both arms. Raises left arm over head and right arm to horizontal. Grip good in both hands. Flexes toes. Bilateral positive Hoffman test and static ataxia are present. No rigidity. Clonus or Babinski cannot be evaluated (constant plantar flexion). Vibratory sense was intact. Lower abdominal reflexes were present. The upper reflexes were absent. There was no facial paralysis.

Treatment March 9, 1957: Intrathecal injection of 75 mgm. of hydrocortisone crystals, concurrently with 40 units of ACTHAR-Gel deep in the subcutaneous tissue. March 10, 1957: ACTHAR-Gel U 20, deep in the subcutaneous tissue. Patient was discharged.

Laboratory Results Spinal fluid: total protein 34 mgm. percent. Colloidal gold test was negative.

FOURTH HOSPITAL ADMISSION May 5, 1957

Normal vision, speech, swallowing, bowel and bladder function were present. Right side of body felt numb from shoulder down. Stated this had always been present. However, patient still showed confusion in respect to time and in differentiating the right from the left side.

Positive Findings These were essentially the same as at the previous examination except for slight left facial weakness and deviation of tongue to left. Vibratory sense was absent in left wrist Abdominal reflexes present.

Treatment May 6, 1957: Intrathecal injection of 62.5 mgm. of hydrocortisone crystals, TBA. Acthar-Gel, 40 units deep in the subcutaneous tissue. Tetracyline 100 mgms. I.M.

Laboratory Results Spinal fluid total protein 32 percent. Colloidal gold test was negative.

FIFTH HOSPITAL ADMISSION November 14, 1957

There has been slow and steady improvement with an increase in the patient's ability to do more. Now answers telephone. Can get out of wheelchair and get down to floor on hands and knees. Watches television for one hour and is able to understand the subject matter. However, on questioning, memory defects were found for time but not for place, or differentiating left from right. Patient had no complaints except "feels a little jittery."

Positive Findings The neurologic findings were essentially the same as on the previous examination, except for the presence now of partial dorsi flexion of foot on right and the ability to move the toes of both feet. The patient can turn over in bed and can almost rise to a sitting position. There is now enough relaxation of plantar flexion muscles to elicit bilateral ankle clonus. Babinski sign was equivocal. Vibratory sense was intact. The abdominal reflexes were present and active. A partial left facial paralysis was present.

Treatment: Intrathecal injection of approximately 125 mgms. of hydrocortisone crystals. Penicillin and Streptomycin were administered intramuscularly.

Laboratory Findings Spinal fluid total protein was 28 mgm. percent. The colloidal gold test was negative.

Scott Lane



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Diagnosis of Pheochromocytoma

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The interest in pheochromocytoma has recently increased because newer and more accurate methods for its diagnosis have been discovered. A few years ago some authors[1] wrote that the index of suspicion of pheochromocytoma was unduly low. However, more cases are being reported in the literature each year since the ability to diagnose this condition has increased. Indeed, in some clinics, every patient showing high blood pressure is suspected of having an adrenal tumor.

The diagnosis of pheochromocytoma is important because it is one of the very few etiological factors in hypertension which can be eliminated surgically; the cure is usually permanent. Pheochromocytoma is the most frequent cause of surgically correctable hypertension; the others, coarctation of the aorta, unilateral kidney disease, brain tumor, adrenocortical tumor, neuroblastoma, and certain pituitary tumors are rather uncommon. Because of the frequency of essential hypertension and its similarity to certain forms of pheochromocytoma, the clinician has to face the problem of differential diagnosis in a great number of opportunities. Iseri et al[2] have reported an incidence of 0.5 percent of this tumor in a series of hypertensive patients; Friedberg[6] thinks that the incidence is probably lower.

The diagnosis of pheochromocytoma is primarily based on history and physical examination, clinical tests, and laboratory studies.

The clinical picture of pheochromocytoma is produced by the release of pressor amines into the blood stream. These pressor amines are epinephrine and norepinephrine (levarterenol). They differ in the symptoms they produce. When epinephrine is infused into the blood of a normal man to produce a

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rise of systolic blood pressure of 180mm. Hg., it produces at the same time a number of unpleasant symptoms such as anxiety, palpitations, etc. The diastolic pressure is usually not modified. If the rate of injection is increased, extrasystoles, restlessness, hyperpnea occur. The glycogenolytic action of epinephrine can cause hyperglycemia and glycosuria. Epinephrine in doses too small to produce hypertension may produce hyperglycemia. Norepinephrine infusion does not produce any subjective manifestations in spite of the changes which take place in the cardiovascular system. Tumors which contain small total amounts of norepinephrine and insignificant quantities of epinephrine cause a clinical picture closely resembling essential hypertension; metabolic disturbances are of secondary importance.[4]

The clinical picture produced by pheochromocytoma is variable and this is probably due to the different ratios of epinephrine/norepinephrine released. Some pheochromocytomas discharge pressor amines constantly, others intermittently, and the same tumor may change the production of amines under different circumstances such as stress, psychic tension, fear, etc. Pheochromocytoma has been called the "great mimic"[5] because its signs and symptoms can be mistaken for many different conditions: essential hypertension, psychoneurosis, cardiac neurosis, thyrotoxicosis, diabetes, brain tumor, etc., are commonly diagnosed in patients with this tumor.

Goldenberg, et al.[10] have established a classification of the different clinical syndromes produced by pheochromocytoma:

- Paroxysmal hypertension.
- Persistent hypertension.
- A combination of hypertension, hypermetabolism and glycosuria.
- Persistent hypermetabolism or hyperglycemia coexistent with hypertension.

Hatch et al.[7] add an asymptomatic form and a form with Addison's disease due to local pressure on the cortex.

Paroxysmal Hypertension[3,7,9,10,11,16] This form is the most classic if not the most common one. The attack is characterized by a sudden onset of headache, sweating, palpitations, a marked tachycardia, occasionally bradycardia; the symptoms are alarming. If the blood pressure is taken during the attack a severe hypertension is noted. The patient is very anxious and nervous. Nausea, vomiting, chest or abdominal pains are frequent; occasionally paresthesias are noted.

In some cases there are warning symptoms such as vague uneasiness, lassitude, weakness, slight headache, nausea and dizziness. The attack is frequently accompanied by peripheral vasomotor phenomena such as blanching or bluish red discoloration, numbness, and tingling of hands and feet; in the severe attacks the peripheral pulses can disappear and the retinal arterioles are constricted.[5] Flushing of the face and "gooseflesh" are not uncommon.

On physical examination a rise of systolic blood pressure is found which can be extremely elevated (over 300mm. Hg.); the diastolic pressure is also elevated. On auscultation there is a tachycardia, bradycardia, or arrhythmia. The aortic second sound is accentuated; a transient aortic diastolic murmur has been noted.[7] The pupils are dilated and a tremor may be present. The patient is frequently dyspneic and his body tem-

perature is elevated. A careful abdominal palpation may reveal a mass in a few cases. Kvale et al.[9] have noted that almost all the patients having a pheochromocytoma were thin.

The attack usually lasts for a few minutes but its duration may vary from a few seconds to several hours or days.[9] The frequency can be anywhere between 10-20 per day to one every two or three months. After awhile the attacks can increase in frequency. A severe attack may end in shock, acute pulmonary edema or coma. Several factors like stress, emotion, changes in temperature, exercise, pain, postural changes, constipation, eating, etc., may precipitate an attack. It is also occasionally produced by massaging the area of the tumor.

Persistent Hypertension[5,9,10] This is probably the most frequent clinical form of pheochromocytoma. The symptomatology resembles the one of essential hypertension so much that the positive diagnosis is very hard to make without laboratory tests. Sometimes the patients with continuous hypertension complain of attacks similar to those experienced by the former group. If the sustained hypertension has lasted for a certain length of time, the clinical findings are the same as in essential hypertension of long standing. The fundoscopic changes, kidney and heart lesions, and EKG abnormalities are indiscernible from those produced by essential hypertension.

Combination of Hypertension, Hypermetabolism and Glycosuria. Many cases of pheochromocytoma are accompanied by a constantly elevated basal metabolism without other signs of hyperthyroidism. Kvale et al,[9] in a group of patients with pheochromocytoma and sustained hypertension found that most of them had elevated basal metabolism rates, (over 20 percent) and many had an elevated fasting bood sugar.

Persistent Hypermetabolism or Hyperglycemia Coexistent with Hypertension. Several instances of diabetes with paroxysmal or persistent hypertension due to pheochromocytoma have been reported; complete cure is effected by removal of the tumor.[8] Many patients with pheochromocytoma have been treated for several years as diabetics.

Silent pheochromocytomas are not uncommon; they are found at autopsy. Sudden deaths due to asymptomatic pheochromocytoma have been reported.[12] Certain tumors reach a large size, but may never develop the capacity to exceed the threshold value of pressor substances to produce a raise in blood pressure. The fairly frequent association of pheochromocytoma and neurofibroma has been noted[13, 14], and it is considered that about 5 percent of patients with neurofibromata and hypertension, have pheochromocytoma.

Tests Recently Kvale et al.[9] have given the indications for testing patients for pheochromocytoma:

a) Patients who have spells associated with headaches, perspiration, thoracic and abdominal pains, nervousness and vasomotor phenomena.

b) Thin patients who have a history of fluctuating hypertension which is within normal limits on examination should have a histamine test. Pheochromocytomas are not likely to occur in patients who are fat.

c) All young individuals with hypertension should be tested.

d) All patients with increased metabolic rates without hyperthyroidism.

e) All individuals with a short history of hypertension.

f) All individuals with severe hypertension not included in the previous categories.

g) Patients who respond with a paradoxical reaction to the ganglionic blocking agents.

h) And when a patient responds unsatisfactorily to an anesthetic and the blood pressure rises, the administration of the anesthetic should be stopped immediately for this could indicate a pheochromocytoma.

The drugs employed for the diagnosis of pheochromocytoma can be divided into two groups:

1) Drugs which produce a release of active amines.

2) Drugs which depress the action of pressor amines.

The group of drugs is chosen according to the blood pressure of the patient. If it is lower than 170/110 mm. Hg. a drug producing release of pressor amines should be used; otherwise depressor drugs are recommended.

1) The drugs of the first group are histamine, mecholyl, and tetraethylammonium chloride (or bromide).

Histamine Test[5, 9, 11, 6] The mechanism of action seems to be due to a direct stimulating effect of histamine on the chromaffin cells producing a release of the pressor amines.[15, 16] The patient should be at rest for fifteen minutes at least to obtain the basal pressure; all sedatives and hypotensive drugs have to be stopped in advance (according to their duration of action). An intravenous infusion of 5 percent dextrose in water is started and blood pressure is taken repeatedly until it is stabilized. Histamine base, 0.025 mg. in 0.5 cc. of normal saline solution, is injected intravenously. The blood pressure is recorded every thirty seconds or every minute for fifteen minutes. If the response is negative the test may be repeated with 0.05 mg. of histamine base. The test is considered as positive if, after an initial drop of blood pressure which lasts for thirty seconds, it rises significantly over the levels obtained at rest or with the cold pressor test. The maximum is usually reached in two minutes. The rise in blood pressure should be of 50-60 mm. Hg. for the systolic and 25-30 mm. Hg. for the diastolic; in the absence of pheochromocytoma there is only a slight rise. Regitine should always be at hand when the histamine test is done because of the possibility of a serious elevation of the blood pressure in that case Regitine is rapidly injected intravenously. The histamine test has been found to give false positive or false negative reactions in 5 to 10 percent of the patients. Evans[19] has found 29 percent of false positive responses in a series of cases. This test seems to be less reliable than Regitine test.

Mecholyl Test[15, 19, 20] Mecholyl seems to act the same way as histamine by a direct action on the chromaffin cells.[20] This test is considered less reliable than the histamine test. These two tests are non-specific and misleading. They may produce severe blood pressure elevation in patients with pheochromocytoma and drop of blood pressure in other cases. The side reactions are usually disagreeable for the patient; sweating, tears, dyspnea, salivation, warmth and urge to defecate and urinate are common. The technique of the test is about the same as for the histamine test, but the drug is injected subcutaneously. The amount recommended is 25mg. but Evans et al.[19] recommend injecting 10 mg. to avoid the side-effects; von Euler[15] suggests the in-

jection of 1 mg. of atropine sulfate before the test.

Tetraethylammonium chloride (or bromide) Test[21] *These drugs are considered too dangerous because of the severe hypertensive crisis they can produce in presence of pheochromocytoma.* Several cases of death or serious accidents have been reported after the use of TEAC or TEAB.[5] The mechanism of action of these drugs has been explained in different ways. The ganglionic blocking action seems to increase the pressor activity of circulating epinephrine and norepinephrine by blocking the regulating mechanism. In addition, it seems to increase the release of amines from chromaffin cells by a direct action on the latter. LaDue et al.[21] believe that blockade of automatic ganglia results in a denervation of the blood vascular supply of the tumor and the loss of vascular tone with vasodilatation and increased blood flow might cause an outpouring of epinephrine into the peripheral circulation. The usual dose which is recommended is 400 mg. intravenously. This drug is seldom used today.

2) The drugs which depress the action of pressor amines.

These drugs produce a rapid drop of the blood pressure in patients with sustained hypertension or hypertensive attacks due to pheochromocytoma. They are used in patients whose blood pressure is higher than 170/110 mm. Hg. Three drugs have been used: Regitine, Benzodioxane, and Dibenamine.

Regitine Test[5, 9, 3, 22, 23] This is one of the drugs most frequently employed to test hypertensive patients suspected of having pheochromocytoma. The advantages of this drug are: fair reliability if used with proper precautions, ease of administration and lack of severe side reactions. It can be used as an office procedure. If false positive reactions are occasionally found, false negative ones are rare.

Regitine or phentolamine is an adrenolytic and sympatholytic drug. It is adrenolytic in small doses and sympatholytic in high dosage; the adrenolytic action is the basis for the test.

Certain precautions have to be taken before doing this test. Sedation should be withheld before the procedure, drugs such as demerol, barbiturates, morphine, chloral hydrate, potassium cyanate are likely to produce false positive reactions in patients with essential hypertension.[5, 24] Antihypertensive drugs should also be suspended before the test. The injection of Regitine in patients with sustained hypertension who receive hypotensive products can produce a false positive response. If the hypotensive drugs are of the long acting type such as apresoline or rauwolfia, the treatment should be stopped several weeks in advance. If the drug is a short acting one (ganglionic blocking agents or veratrum) the treatment should be discontinued for one or two days.[24] A difference of the blood pressure in both arms may occasionally produce a false positive result in patients with hypertension; the blood pressure measured in the arm with the highest pressure may fall to the level of the other arm during the test.[24] Therefore, the blood pressure should be measured in both arms; if there is a discrepancy the pressure should be taken in both arms during the procedure.

In patients with severe uremia the test is unreliable.[22] False positive results are frequently seen in patients with a high BUN or NPN False positive reactions are likely to occur in patients

with blood pressure in the low hypertensive range: systolic pressure between 140 and 170 mm. Hg. and diastolic between 90 and 110 mg. Hg.

The dose of Regitine should not exceed 5 mg. because a larger dose may give false positive reactions.[23] The procedure is carried out as follows: the patient should rest in a quiet room so his blood pressure can stabilize. When the basal level has been obtained, the needle is inserted and the blood pressure is allowed to subside. Five mg. of Regitine methanesulfonate dissolved in 1 cc. of sterile distilled water are injected rapidly into the blood stream; the intramuscular route is occasionally used. If the drug is injected intravenously, blood pressures should be recorded every thirty seconds for three minutes and then every minute for another seven minutes. Blood pressure determinations are made every five minutes for a half hour if the intramuscular route is used.

In the first case a positive response is characterized by a fall of the blood pressure greater than 35 mm. Hg. for the systolic pressure and greater than 25 mm. Hg. for the diastolic within two minutes. Usually the systolic drop is around 60 mm. Hg. and the pressure remains low for three to four minutes. Initial levels return within ten to fifteen minutes. If the intramuscular route has been used the drop lasts for thirty minutes and the blood pressure returns to normal in about three hours or more. Tachycardia and occasionally flushing, weakness and dizziness are the side reactions due to Regitine.[6, 22, 23] No falsely negative reactions have been recorded from Regitine given intravenously.[23]

Piperoxan (or benzodioxane) Test Piperoxan has a blocking action on the excitatory responses of smooth muscle to adrenergic stimuli. This test should be done only on hospitalized patients because it is not entirely innocuous. It gives frequent alarming reactions: flushing, tachycardia, headaches, anginal pain, and in patients with essential hypertension a rise of the blood pressure which can be vary marked.[5, 22] Some rare cases of severe hypotension have been reported; for this reason levophed or neo-synephrine should always be at hand when the test is done. For the administration of this drug the same precautions have to be taken as with the Regitine test. An intravenous infusion of 5 percent glucose in water is started and when the blood pressure has become stabilized, 0.25 mgms of piperoxan per kilo of body weight are injected over a two to five minutes period. Usually 10 to 20 mg. of piperoxan are injected. The blood pressure is taken every thirty seconds for five minutes and then every minute for fifteen minutes. A positive response is characterized by a rapid fall of pressure which is similar to the one produced by Regitine. This fall lasts at least five minutes.[9, 15, 6] False positive reactions are relatively rare, except in patients with uremia[22], but false negative ones are more common.[6, 23]

Dibenamine Test This drug is related to the nitrogen mustards. It does not alter epinephrine but inhibits the release of sympathetic mediators or significantly alters the responsiveness of sympathetic nerves to electrical or reflex excitation. Blockade by Dibenamine is a relatively slow process.[3] A slow intravenous injection of 400 mg. of Dibenamine hydrochloride in 500 cc. of 5 percent glucose solution lasting one to two hours causes a slowly developing but long lasting low-

ering of pressure in cases of pheocromocytoma; the drop of pressure can last twenty-four hours.[15, 29] False positive tests are fairly frequent, Evans et al.[19] consider that they had 37 percent false positive tests.

Laboratory Determinations The most specific and reliable of these determinations is the estimation of the catechol amines in the urine or in the blood. Today this is considered the best test for the diagnosis of pheochromocytoma.

Engel and von Euler[27] found that when adrenaline and other catechol derivatives are administered to man, they are partly excreted through the urine in a conjugated form, presumably as sulfate esters.

They reported two instances of pheochromocytoma in which an increased output of the catechol derivatives was demonstrated. Lund[28] showed that if the concentration in the urine is greater than 10 micrograms percent, pheochromocytoma should be suspected. An excretion of more than 100 micrograms in 24 hours is considered as highly abnormal.

It is important that the pheochromocytoma either be secreting epinephrine or norepinephrine when urine or blood are collected; this secretion can be spontaneous or induced by drugs like histamine or certain maneuvers.[24] Von Euler[15] found that catechol amines were increased in all patients showing signs of a secreting tumor. Norepinephrine is increased in the urine in all instances; epinephrine only in a few. In no patients was an increased content of epinephrine alone found in the urine or in the tumor. The quantities of catechol amines recovered from the urine represent a small fraction of the total amount secreted by the tumor; the percentage varies from 0.3 to 4 percent.[10] The patients with persistent hypertension have higher levels of amines in the urine than those with paroxysmal attacks. However, there is a considerable amount of "leakage" of catechol amines in paroxysmal cases between the attacks, in the normotensive periods.[10] For the determination of these products, photofluorescence has replaced bio-assay.

Twenty-four hour urine specimens are collected with 10 cc. of 6N hydrochloric acid as a preservative for catecholamines. The pH should be around 3.5. The specimens are kept refrigerated. The patient should be taken off medications, especially vitamins which might interfere with the photofluorometric test.[10] The lowest levels observed in cases of pheochromocytoma were 104 to 109 micrograms in twenty-four hours. Usually, the excretion is above 300 micrograms.[9, 18] Normotensive people had an excretion of 14 to 41 micrograms in twenty-four hours and patients with essential hypertension had an excretion of 7 to 100 micrograms.[9]

Chemical quantitation of pressor amines in the blood is the most direct and accurate clinical method of establishing the presence of a functioning pheochromocytoma.[9] Venous blood normally contains no detectable amounts of pressor amines (less than 0.1 microgram percent). If the amount of adrenaline and/or noradrenaline found in the peripheral blood exceeds 1 microgram, pheochromocytoma should be strongly suspected.[28] Kvale has found that in patients with persistent hypertension due to pheochromocytoma the level of pressor amines in the blood was greater than 3.5 micrograms percent. In two patients with paroxysmal attacks the level was

normal when the blood pressure was normal.[9]

Elevated concentrations of amines can be found in patients with renal insufficiency, increased intracranial pressure, lymphoma, and jaundice. The increase of bile pigments, or hemolysis of the blood, interfere with the fluorescent measurements and produce high readings. The increase of amines can also be due to the use of epinephrine-like substances such as nebulized epinephrine and vasoconstrictor agents.[9, 24]

LOCALIZATION OF THE TUMOR. Before the operation it is important to know where the tumor is located. Sometimes the tumor can be palpated in the abdomen but this is rather uncommon. Occasionally intravenous pyelogram or retrograde pyelography can help. Retroperitoneal pneumography has been used successfully.[18] A new approach to this problem has been presented by von Euler et al.[17] A catheter is passed into the venous system and blood samples are drawn from different points for pressor amine determinations. The highest concentration is found near the tumor.

Other laboratory determinations such as blood sugar, especially if the blood has been drawn during an attack, basal metabolic rate and urinalysis are helpful in establishing the diagnosis.

DIFFERENTIAL DIAGNOSIS. This has to be made from among several conditions: essential hypertension, hyperthyroidism, acute and chronic nephritis, diabetes mellitus, Cushing's syndrome and brain tumor are the most likely.[7] Other conditions are: anxiety state, neurasthenia, cardiac neurosis and mediastinal tumor.

Conclusion

The problem of the diagnosis of pheochromocytoma may be difficult for the clinician because of the great similarity of this disease with common conditions such as essential hypertension, diabetes, hyperthyroidism and anxiety state. Very frequently, the clinical history and physical examination are not helpful. The physician has to rely upon certain tests and determinations.

The two tests which seem to be the most innocuous and most reliable are the histamine and Regitine tests; however, like all similar tests they are not 100 percent accurate. They do not always confirm or rule out the diagnosis of pheochromocytoma.

The most accurate method of determining the presence or absence of pheochromocytoma is the estimation of pressor amines in the urine or in the blood; the latter is the best one. This method gives very few false positive or false negative reactions if certain precautions are taken. Unfortunately, these determinations are not done in every laboratory; therefore, are not available as a routine procedure.

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"MEDICAL TEASERS"

A challenging crossword puzzle for the physician

page 51a

SPONTANEOUS ABORTION

Physician-Patient Relationship

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The condition of spontaneous abortion is a most distressing one to physician and patient alike, and must be dealt with by any doctor who includes obstetrics or general medicine in his practice. Few other common disorders call for such tactful handling of the patient and her family; and, unfortunately, failure in patient relationship during a miscarriage sends many patients elsewhere the next time care is needed.

The patient enduring threatened abortion is apprehensive owing to the uncertainty of outcome during the sometimes prolonged expectancy stage of management, such apprehension being greatly increased by the natural fear one possesses of seeing one's own blood being lost.

The husband, in many cases either just reconciled to an unplanned pregnancy or overly happy about a much desired one, sees a major medical expense almost commensurate with full term pregnancy with nothing to show for it. The patient's family are displeased because it looks to them as though nothing is being done for their daughter. When to those special situations are added the many misunderstandings and superstitions concerning miscarriage, the physician-patient relationship is indeed put to severe test.

The family physician, with a patient's confidence gained by many previous medical attentions, has an enviable advantage over that doctor whose first and perhaps only encounter with the patient is at the time of her abortion. For this reason, the author has written a short paper directed at the patient threatening abortion, which he gives to such patients and from which much of the following material is adapted. The following points should be emphasized in gaining the confidence of the patient.

The patient undergoing threatened abortion for the first time is often considerably reassured by learning that abortion is not an uncommon outcome of pregnancy. A study from the Bureau of the Census shows a wide variation in statistical reports concerning the incidence of abortion, anywhere from one abortion to every 2.4 full term births, to one abortion in every 12.9 births, with an average of one to five. If the patient learns that there is one miscarriage for every five babies born, her

condition immediately becomes less foreboding.

One should next dispel the fear that one abortion might mean subsequent pregnancies will have similar fates. Especially valuable here is the work of Mall in which is shown that the incidence of repeated abortion in women who have had one abortion is only about three percent higher than in those who have never aborted. Even after consecutive abortions, sixty percent of such patients carry subsequent pregnancy successfully to term.

Causes of Abortion The most comforting explanation as to the cause of abortion, and a point that is perhaps of greater consolation to an aborting patient than any other, is the blighted ovum theory. The author tells the patient that most abortions are the result of a defective pregnancy, and are really nature's way getting rid of a fetus that would, if allowed to continue its development, result in a defective child. Many observers have carefully studied the products cast off at the time of abortion and have found a tremendously high percentage of deformed pregnancies. Most of these deformities would not be consistent with life.

An easy explanation to the patient for these deformed pregnancies is to tell her that every man has a number of bad spermatozoa in his ejaculate. Every report on the analysis of semen of normal males in infertility studies includes a certain percentage of abnormal forms. Likewise, every woman has a number of bad egg cells among the half million or so that are contained in her ovaries. When one of these defective eggs or one of these abnormal sperm is involved in a conception, rather than have a defective offspring result, nature rids itself of an undersirable product through the process of abortion.

The author often refers to a study performed in Boston several years ago by Doctor John Rock, when the uteri of a number of women were minutely examined following hysterectomy, such hysterectomy purposely being performed near the end of their monthly cycle, just before the expected menstrual flow. These women all required hysterectomy for reasons other than would be expected to interfere with conception, but which would make pregnancy dangerous. They were purposely exposed to pregnancy in the preceding cycle, or at least were not cautioned against conception.

Detailed examination of the removed uteri revealed the presence of a pregnancy of a few days' duration in twelve instances. In these twelve very early pregnancies, five, or forty-two percent displayed upon miscroscopic examination abnormalities that were inconsistent with life. One can see therefore that even before the first missed period, these pregnancies were scheduled for abortion. Granted, the series is small to be of statistical significance, but probably represents more the true instance of abortion than that quoted earlier. The high percentage of abortion in this series is most likely explained by the findings of another study a few years back at the Mayo Clinic. Here the menstrual flow products of the wives of the resident doctors were examined in connection with the basal temperature study. The examiners were surprised to find evidence of strikingly high incidence of pregnancy aborting at the approximate time of the expected menstrual period, with not the slightest suspicion on the part of the aborting mother. Often a patient with an infertility problem will be found to

have no trouble conceiving, but she aborts at this early time at each conception and pregnancy is never recognized.

In the small group of threatened abortions which follow trauma, or injuries, and such an etiology must always be considered equivocal, the patient can always be reassured by the fact that such is unlikely to occur in a subsequent pregnancy.

In the even smaller percentage of abortions which occur in patients having constitutional factors or in patients who have been in infertility studies, it is sometimes reassuring to the patient to tell her that even should she abort, at least she has demonstrated that she can become pregnant; and that she probably will become pregnant again and most likely carry her pregnancy successfully to term.

Status of Child At this point, it is well to dispel a fear that the patient might not have had originally but which the foregoing might have raised in her mind. She might indeed wonder whether her pregnancy will be normal if she carries such pregnancy to term following a threatened abortion, since so many abortions are the result of defective pregnancies. Here it is wise to refer to several studies that have been reported in the literature which have been based on comparison between thousands of instances of threatened abortion with the pregnancy carried to term to equal numbers of cases of term pregnancies in which no abortion had threatened during pregnancy. In such studies, no increased incidence of deformed or abnormal children was found in those cases in which abortion had threatened. The author summarizes this thought to the patient with the statement that he believes, therefore, that a defective pregnancy will abort despite any measures that one might perform, and a good conception will most likely be carried successfully to term by the patient with a little supportive means. This point has been strongly supported by a excellent paper by the Atlanta group: Bartholomew and others.

Some patients find solace in learning that by the time the bleeding has appeared in those abortions that are not to be carried successfully to term, the pregnancy has ceased to develop for several weeks. The defective embryo never develops past a very early state or, having developed, regresses, and is seldom identifiable in an early abortion. The author tells the patient that often he will examine a patient in the office and find her womb to be smaller than expected for that stage of early pregnancy, making a note at that time to expect subsequent miscarriage in that patient. Often a call a few days or weeks later will bear out such suspicion. If the patient feels, therefore, the outcome of her pregnancy has been determined even before any bleeding has occurred, she is more inclined to go along with supportive means, and to avoid expensive medications.

Management As one might predict from the foregoing discussion, the author agrees with supportive management only in threatened abortions, with the exception of specialized cases of habitual abortions, abortions following long periods of infertility, and constitutional factor abortions.

If one has been successful in ones explanation of the incidence, cause, and status of the child in abortion, one-role in the expectancy stage of management will be a much easier one. In this, the

patient is put to bed and given a mild sedative. The degree of bedrest is tempered by practicality. In the average case, where invalidism cannot be practiced except with extreme financial sacrifice, bedrest is minimal and the supportive therapy consists purely of avoiding strain of unusual nature and marital relations. Bedrest is ordered only during those episodes of bleeding more than a normal menstrual flow.

As for supportive sedation, paregoric given in two dram doses every four hours, omitting the middle of the night dosage, gives much relief to the patient. Its prolonged use, of course, is constipating and continuing dosage of paregoric is reserved for those patients when the bleeding beyond the first day of bleeding continues to be more than a menstrual period and is accompanied by cramping.

The patient is instructed as to the possible outcome of her threatened abortion in the following way. First, the state of threatened abortion can pass with the disappearance of bleeding, the continuance of pregnancy, and a successful term delivery of a normal child. This is especially true in threatened abortion at the time of the third missed period.

The patient may abort with heavy bleeding and cramping and the passage of the fetus, this being followed by minimal bleeding and no cramping and spontaneous recovery. The condition of complete spontaneous abortion is very similar to a small spontaneous term labor.

The threatened abortion may progress to heavy bleeding and cramping with passage of some tissue followed by heavy bleeding and cramping. This, of course, represents the condition of incomplete abortion, and the patient having been instructed to save the tissue passed and this having been obtained, immediate admission to the hospital with dilatation and curettage, and transfusion if necessary, is done. The patient is usually sent home the following morning for continuance of her recovery at home. In this regard, the author usually curettes all abortions that occur in the hospital whether complete or incomplete. This was not done formerly, but the readmission of patients thought to have had complete abortions who required curettage later, together with the greater patient satisfaction that curettage has terminated her condition of abortion, complete or incomplete as it may be, has made this seem by far the wiser course when the patient is already hospitalized. The risk and additional expense are far outweighed by the advantages mentioned.

The patient having threatened abortion might continue to bleed a small amount, said bleeding becoming dark but continuing over a long period of time. Such a patient is checked frequently in the office and, with continuance of bleeding and no continuing enlargement of the fundus over a long period of observation, currettage is recommended. This is done on routine admission and as elective surgery.

Summary

The condition of spontaneous abortion demands a very strong patient-physician relationship. At the time of initial consultation for this condition, the physician should carefully explain to the patient the incidence,

etiology, and points in management of this entity. If the patient is seen in the office or hospital, she is examined with a speculum to determine status of the cervix, being reassured that such examination can be done gently and should have no effect upon subsequent outcome of her threatened miscarriage. If she is seen at home, she readily agrees to postponement of examination while bleeding.

Since most of these patients are managed at home until time of passage of tissue or disappearance of the symptoms of threatened abortion, it is wise that the physician keep in contact with the patient throughout the course of her expectancy phase. It is especially important when such low-pressure therapy is employed, to see that the patient understands that such is the result of considered medical judgement and not the easy path of medical neglect. In the condition of spontaneous abortion, the successful physician exhibits his talents for the art of medicine.

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In addition to our regular quota of original articles and departments, this issue, and every issue, contains selected Case Reports. You will find them on pages 1420-1430. We recommend these studies as interesting and stimulating.

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Corticotropin-Zinc Hydroxide

Case reports illustrating the effectiveness of a long-acting aqueous suspension of ACTH in the management of ambulatory patients in general practice

The availability for therapy of corticotropin (ACTH) has equipped the physician with a powerful hormonal weapon for the control of a wide variety of disorders. Ever since 1949, when Hench and his colleagues reported on the outstanding results obtained with corticotropin in the treatment of rheumatoid arthritis and rheumatic fever, corticotropin has been employed in the treatment of a host of endocrine and non-hormonal conditions. It has been shown to have definite value in over one hundred diseases, "an unmatched record."[1] Functioning together, the pituitary and adrenal glands exert the far-reaching effects which account for the wide use of corticotropin and the adrenal steroids today. Under the influence of pituitary corticotropin, the adrenal cortices discharge their special steroids, the corticoids, of which cortisone and hydrocortisone are the two best known. These adrenal steroids possess anti-inflammatory, anti-allergic, anti-toxic, and anti-rheumatic activity. They are also regulatory, being used to regulate hemic equilibrium and to inhibit or regulate mesenchymal fibroplasia.[1]

In addition, under the influence of ACTH, the adrenal cortices secrete steroids with androgenic, estrogenic, and perhaps anabolic and progestational action. Thus, physiologically, administration of ACTH stimulates the adrenal cortex to an increased natural function. This natural stimulation to adrenal production of cortisone and hydrocortisone is the basis for most of the therapeutic effects of corticotropin.[2]

There are few differences in the effectiveness of corticotropin and the cortisones in the treatment of most diseases. However, it would seem that the use of a single corticosteroid (cortisone, hydrocortisone, prednisone, prednisolone) cannot be expected to provide results identical to those of corticotropin, since the latter stimulates increased secretion of the adrenal cortices complete hor-

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monal spectrum. In addition, during therapy with any of the adrenal corticosteroids, secretion of ACTH by the pituitary is suppressed, resulting eventually in atrophy of the adrenal cortices.[3] Periodic injections of ACTH should be administered during prolonged therapy with any of the adrenal steroids in order to maintain a functioning adrenal cortex.

There are several forms of corticotropin available for therapy: aqueous solutions or lyophilized powders, in gelatin, and in the recently available aqueous suspension with zinc hydroxide. Each of these forms must be administered parenterally. Corticotropin was originally made available as an aqueous solution which could be administered intravenously or intramuscularly. This form is most effective when administered as a slow intravenous infusion. When administered intramuscularly, it exhibits a duration of activity of from four to six hours, necessitating frequent injections in order to obtain an extended duration of activity. Thus the solutions or lyophilized powders of ACTH are not suitable for use in ambulatory patients. Rather, their use is confined to the hospitalized patient whose condition requires the rapid action offered by intravenous infusion. When the patient's condition permits, intramuscular injections of a longer acting form of ACTH are employed.

The duration of activity of parenteral ACTH was extended somewhat by employing it in a gelatin vehicle. This was an advance over the earlier preparation in that it has a duration of activity varying between eight and twelve hours, depending upon the severity of the disease under treatment. Two injections daily are often required in order to control a severe disorder. In addition, the physical characteristics of the preparation reveal other disadvantages: it usually must be heated in order to liquefy it sufficiently for injecting and a No. 21 or No. 22 gauge hypodermic needle must be employed. Thus, ACTH-in-gelatin is cumbersome to handle in addition to not providing the desired prolongation of ACTH activity.

Zinc hydroxide with corticotropin in a simple aqueous vehicle forms a fine, free-flowing suspension that is stable and easy to inject.[4] In this preparation, ACTH is adsorbed on the insoluble zinc salt, and is slowly yielded for bodily absorption.[5, 6] The zinc salt prevents the destruction of ACTH by proteolytic enzymes in the tissue area locally.[5] This corticotropin-zinc hydroxide preparation, Cortrophin-Zinc,® thus provides a more even stimulation of the adrenal cortex, avoiding variable periods of over- and under-stimulation of the adrenal cortex that occur with the gelatin and aqueous forms of ACTH. Corticotropin-zinc hydroxide exhibits a duration of activity of about twice that of the same number of units of ACTH-in-gelatin. This has been shown by measurements of eosinophil depression,[4] plasma 17-hydroxycorticosteroid levels,[8] urinary corticosteroid and 17-ketosteroid excretion,[9, 10] and by clinical results in patients suffering from a wide variety of disorders.[4, 6, 11, 12, 13, 14, 15]

It is the purpose of this report to present a series of cases illustrating the effectiveness of corticotropin-zinc hydroxide in treating disorders commonly observed in general practice, particularly during the warm weather months.

Corticotropin-Zinc Hydroxide, Cortrophin-Zinc®, Organon Inc., Orange, New Jersey.

CASE REPORTS

Case 1. H.C., Male, Age 52 Patient was an overweight white male who complained of persistent pains in the area of the right great toe. X-rays of the area proved negative. Abnormal amounts of uric acid in the blood indicated the presence of gout. Patient reported that the pain had been present in severe form during the week prior to his visit. Patient was given a 1 cc. injection of Cortrophin-Zinc for three days in succession and the condition subsided completely. Patient was not given any colchicine because of the excellent results obtained with Cortrophin-Zinc.

Case 2. T.T., Male, Age 8 This patient was an 8-year-old boy who contracted severe poison ivy every summer. Earlier in the year, he had undergone a series of immunizing injections in an effort to prevent occurrence of his yearly affliction. However, several days prior to visiting the office of the writer, the patient came in contact with poison ivy while at a beach. On examination, the patient's entire body was affected with rhus dermatitis in all stages of development. The patient was extremely uncomfortable, and reported his inability to refrain from scratching. Calamine lotion was applied to the patient's entire body and one-half cc. Cortrophin-Zinc was administered daily for three days. This was followed by one-half cc. every other day for three doses. After one week, no further ACTH was administered as the condition was completely asymptomatic. The dermatitis disappeared completely in ten days.

Case 3. C.V., Female, Age 37 This patient had developed rhus dermatitis on her upper and lower eyelids of her left eye. This had been present for several days. The condition was marked by itching and weeping of the vesicles. Patient had consulted an ophthalmologist believing her condition to be an eye disease. She was then referred to the writer. Patient's condition was diagnosed to be an edematous rhus dermatitis of the upper and lower left eyelids with small vesicles. She gave a history of poison ivy exposure. Patient was told to apply cold compresses on the affected area and 1 cc. of Cortrophin-Zinc daily for three days was administered. By the third day of treatment, the condition had disappeared completely, necessitating no further therapy.

Case 4. F.O., Male, Age 24 This patient appeared late in September 1956. He reported that he had been cleaning a truck in his backyard in a known poison ivy area. Patient had contracted poison ivy in previous years and stated that the condition took many weeks to disappear. On examination, rhus dermatitis was seen in both angle areas. There were macules and the beginning of vesicles, typical of poison ivy. Calamine lotion was applied to the affected area and 1 cc. of Cortrophin-Zinc was administered. The injection was repeated in twenty-four hours. The patient telephoned the writer several days later and stated that the injections "had worked wonders." Patient stated that his condition had never disappeared so quickly before.

Case 5. F.C., Male, Age 22 This patient appeared with poison ivy of both wrists and arms to above both elbows. The condition was severe and marked by intense itching and weeping. Calamine lotion was applied and 1 cc. of Cortrophin-Zinc was administered. Patient telephoned the next morning to report that the weeping lesions had dried up almost completely. Patient later reported

that the condition had disappeared completely within three to four days after the injection. He also reported that in previous years, he suffered for weeks from poison ivy.

Case 6. A.V., Female, Age 34 This patient appeared with severe generalized dermatitis from ingestion of barbiturates over prolonged periods. She had taken all types of medications to relieve her condition without satisfactory results. She was given 1 cc. of Cortrophin-Zinc every other day for six injections. Improvement in her condition was noted at once, both objective and subjective. One cc. of Cortrophin-Zinc was then administered every third day. Her rash and spots were under good control. Patient then ceased coming for injections. She had been cautioned against continuing with barbiturates. However, patient was seen two months later in Lenox Hill Hospital suffering from severe generalized dermatitis of three weeks duration. On discharge from the hospital, she was put on 1 cc. of Cortrophin-Zinc twice weekly. This treatment had been going on for two months at the time of this report. The rash has almost disappeared and the treatment will be continued.

Case 7. H.C., Female, Age 38 This patient appeared with severe dermatitis of both hands and wrists. The probable source of the dermatitis was considered to be detergents. She was told to apply Burrow's Ointment locally and was given 1 cc. of Cortrophin-Zinc every other day for three injections. The condition disappeared completely in ten days. Patient returned three weeks later with a recurrence of the dermatitis. She was cautioned again about the use of detergents. She received 1 cc. of Cortrophin-Zinc. Patient telephoned the next day and reported that the itch was gone. She telephoned again several days later and reported that the condition had disappeared completely.

Case 8. H.B., Male, Age 24 This patient appeared with rhus dermatitis of both legs of three days duration. The condition was severe with vesicles, oozing, and intense itch. Calamine lotion was applied and 1 cc. of Cortrophin-Zinc was administered daily for two days. 1 cc. was administered 2 days later. The condition disappeared completely in ten days.

Case 9. F.R., Male, Age 47 This patient was employed full-time as a cutter in the cloak and suit industry in New York. He experienced recurrent urticaria on his arms, chest, and neck. He was known to be allergic to wool and the dyes used in wool, but he stated that he had to continue working. Patient had taken all form of antihistamines with only partial relief. In the past four months, 1 cc. of Cortrophin-Zinc was administered on Thursday and Friday of each week. This controlled the symptoms in the sense that they do not recur for periods of two or more weeks. During this two week period, the patient was able to work with no symptoms whatsoever.

Case 10. A.P., Male, Age 57 This patient has suffered from gouty arthritis of both feet for one year. He exhibited all the classical signs and symptoms, his blood uric acid was elevated. He had taken colchicine continuously since his condition was diagnosed. However, at times the colchicine failed to control the symptoms, which disabled the patient. On two separate occasions, patient was given 1 cc. of Cortrophin-Zinc daily for two days. This controlled the symptoms so that he was

able to work efficiently. Patient now reports for a 1 cc. Cortrophin-Zinc injection whenever he feels that his gouty condition is out of control. He has been able to work steadily and asymptomatically since the initiation of this regimen.

Comment The minor case histories presented above illustrate the effectiveness of this long-acting ACTH preparation in the treatment of conditions where immediate relief of an affliction is required, such as in rhus dermatitis. In no instance were any untoward side effects observed or reported by any of the patients.

Corticotropin-Zinc hydroxide provided relief that was rapid in onset, yet which was also prolonged, thus enabling the total dosage of ACTH administered to be kept at the minimum, necessary for control.

Summary

1. The broad field of indications for ACTH therapy make it one of the most useful therapeutic tools available to the general practitioner.

2. The various forms of ACTH available for therapy are reviewed and discussed in regard to advantages and disadvantages. The ACTH preparation offering the most prolonged activity and the greatest convenience in handling is the new aqueous suspension of corticotropin with zinc hydroxide (Cortrophin-Zinc).

3. Minor case histories are presented illustrating the effectiveness of this corticotropin-zinc hydroxide preparation in the treatment of commonly observed problems in general practice: rhus dermatitis, drug dermatitis, gout, and gouty arthritis. The prime consideration in the treatment of each of these conditions was to provide immediate symptomatic relief. This was accomplished with corticotropin-zinc hydroxide and other standard therapeutic measures.

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The Role of the General Practitioner in a Local Mental Health Program

Mark Twain once said that everybody talks about the weather, but no one does anything about it. The same thing might be said about local mental health programs. At a community health meeting in 1931 Doctor Charles Mayo said, "Every other hospital bed in the United States is now occupied by the mentally afflicted, insane, idiotic, feeble-minded, and senile. In addition, there is an enormous number of people almost fit for the asylum." Then he asked, "What is the outcome for the next generation?"

More than twenty-five years have passed, but Doctor Mayo's question is just as pertinent and the answer is just as perplexing as it was the day he asked it. We might well ask ourselves, "What will be the status of the mentally ill twenty-five years from now? Certainly no one would be willing to hazard a guess. However, one thing is certain. The progress that is made will depend, to a great extent, on the effort and money that is put into research and the effort the various communities make in developing effective and well-rounded programs.

If we make a survey of what has happened during the past quarter of a century in mental health, the overall results are not too encouraging. We still have one-half of our hospital beds occupied by the mentally ill, and for every one in a mental hospital, there is probably one in the community in need of treatment. Add to this the number of epileptics, chronic alcoholics, and the patients with severe or moderately severe psychosomatic symptoms, and we can readily see that mental health is still our number one public health problem.

However, very definite progress has been made in certain aspects of mental health. In the past few years our state mental institutions, which treat some ninety percent of the mentally ill, have made considerable progress. The staffs of such hospitals are more nearly adequate and are better trained. Physical facilities have been improved and expanded, alleviating, to some extent, the

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overcrowding that was formerly generally found. Also, newer drugs and treatment methods have made it possible to cure or improve more patients than ever before.

Unfortunately, mental health programs, at the local level, have lagged far behind. So much so, that one is led to suspect that the importance of the local program is not fully recognized. Actually the reason we do not attach more significance to the local mental health program is because we have a comfortable habit of closing our eyes to the things we don't want to see. Just what is the situation in an average community?

Some two percent of the individuals you meet have been treated in some type of mental institution. Many of them still are or should be under treatment. Two or three percent of our children have rather severe mental retardation. Another four to five percent have some degree of retardation. Twenty-five to thirty-five percent of the patients seen in the doctor's offices have emotional or mental disturbances. Some fifty percent of the individuals in our jails and courts are feeble-minded, epileptic, chronic alcoholics, sexual perverts, psychopathic personalities, or unrecognized psychotics.

Many of the clients of the welfare department and those on relief rolls fall into the same category. Juvenile delinquency is an ever-increasing problem and, sadly enough, the number of old people with senile dementia who crowd our county homes, chronic disease hospitals, and rest homes, will probably increase as our population continues to advance in age. Any individual who has worked with these groups and is familiar with the problems they present will agree that our local mental health problems are very real and sufficient in size to almost stagger the imagination.

Can anything be done for these unfortunates? The answer is an emphatic but qualified *yes*. Many of these can be helped, and the problems they cause in the community can be partially alleviated. This can be accomplished by a reasonable investment of money and effort in a mental health program, but such a program must be well planned, well coordinated, administratively feasible, and have undivided community support.

Most of our present programs are inadequate. They remind you of the description of Topsy in *Uncle Tom's Cabin*, "They just growed." Usually they have developed without due consideration of overall community needs, and too much emphasis is placed on certain aspects of the problem and not enough on others. As a result, the services are fragmentary, and there is duplication and overlapping as well as glaring inadequacies. Rarely is there a central planning committee, and no one agency has the responsibility of carrying out the program.

It is not difficult to understand why this has happened. Schools, welfare departments, courts, health departments, and other community agencies are all vitally concerned with some aspect of mental health, and each has tried to develop a program to meet its own needs. Furthermore, trained personnel is scarce and a good program must have considerable financial support. Also, most people underestimate the problem because both children and adults with mental derangements are taken away from the community in which they live for treatment. Out of sight is out of mind. The public

tends to forget about these unfortunates, and turns its efforts toward the more hopeful aspect of the program; for example, child guidance clinics. Even more distressing is the fact that many people still have a perverted, medieval concept of mental illness. To them, mental illness is stigmatizing, mysterious, and essentially hopeless. Therefore, they have little interest or initiative in developing an overall mental health program.

A good, well-balanced health program is not easy to develop. Those responsible for it must have a broad and comprehensive understanding of the various aspects of the problem. They must be conscious of the varied and extensive community needs and must be able to see how the many different parts of a program can be fitted into a well integrated whole.

One of the most important reasons for the inadequacies of the local programs is that the general practitioners have had little part in planning or in implementing them. It is very unfortunate that both the medical profession and the public have failed to recognize the important role the general practitioners can and must play in the development of a mental health program. Through little fault of their own, the general practitioners have been largely excluded from organized mental health even though they can probably contribute more than any one single group. The sooner this mistake is recognized and corrected, the sooner we may expect substantial progress in local mental health programs.

Each day the general practitioners see patients who are in need of mental and emotional guidance — "Grampaw's" senility, Father's inclination to tip the bottle too frequently, Junior's cantankerousness, Mother's nervous spells, and all too frequently the individual with a definite psychosis. Many of these patients feel free to discuss their problems with the family doctor but would hesitate to consult a psychiatrist. The advice and encouragement and medical care the doctor gives the patient is an important part of the mental health program and must be recognized as such. Also, the general practitioners have a broad and practical knowledge of human nature and medical care problems. The failure of the community to make greater use of their skills and knowledge has greatly weakened and limited the usefulness of our mental health programs.

Not only the general practitioners, but the pediatricians and obstetricians have a key role in mental health. Most of the maladjustments and emotional disturbances in children develop during their first few years of life and reflect, to a great extent, the fears and tensions of their parents, or the parents' failure to satisfy the needs of the child during his formative years. In their every day work, both the pediatricians and obstetricians are practicing preventive mental hygiene. They are aware of the parents' responsibility toward the developing child and are making an effort to inform and guide the parents so that the child will develop normally and with as little disturbance and upsets as possible. This is an important part of a mental health program, and the physicians should be encouraged to do more of it.

There is still a more compelling reason why the physicians must take a greater part in the local mental health program. A recent survey of mental health clinics and related facilities in

the United States points out that they are far from adequate. While estimates vary, present facilities are probably not able to care for more than one-half of the patients who need help. If we are to make a serious effort to meet our mental health problems, there must be a considerable expansion of facilities.

The question naturally arises, "where is the specialized personnel coming from since such personnel is extremely scarce at the present time?" Obviously there is not enough available to set up the clinics and other facilities needed. The answer to this is that personnel now available in the local community must be used. It has been pointed out that the general practitioners and other physicians can help out with a mental health program. The same is true of public health nurses and health officers. Even personnel in the related disciplines, teachers, ministers, welfare workers, etc., have a place in the program, and these groups, as well as the local physicians, must be used if we hope to develop adequate facilities in the foreseeable future.

Bringing other medical personnel into the local mental health programs will not only serve to improve these facilities but is in keeping with the trend of mental health generally. More general hospitals are starting to admit patients with mental illness. The use of the new tranquillizing drugs have made it possible to handle almost all patients with mental illness in such hospitals. There is also a trend toward treating certain types of patients with mental illness in the community rather than sending them into a state mental hospital. By so doing, such patients are able to stay on the job, can be close to friends and relatives, and in their normal every day environment. In many instances, this appears to be more conducive to recovery than treatment in the unfamiliar surroundings of some large institution. This definitely seems to be a forward step in the treatment of mental illness.

The Challenge of Mental Health for the Future Because efforts to develop mental health programs in the past have not met with too great success is no reason for not planning for the future. Heretofore there has been confusion and uncertainty as to the type of mental health program needed and as to the services it should provide. Fortunately, as more experience has been gained, the type of program necessary is more clearly understood, and, at the present time, the mental health services needed in the community can be fairly well standardized.

Six types of service should be provided:

1. *Diagnostic:* Services for the diagnosis of mental illness should be readily available in every community. Unlike most other illnesses, the patient who is mentally sick does not recognize it. He does not feel any particular discomfort nor pain. Because of this, he will rarely ever present himself for diagnosis of his own volition. His family or friends must suspect his illness and must accept the responsibility of getting him under treatment. Most people are reluctant to suspect or accept mental disease in a member of the family and, at best, are apt to put off seeking medical help as long as possible. If diagnostic services are not readily available, this delay may be prolonged, and the patient loses the benefit of early treatment.

The above applies to the psychotic patient. Other types of diagnostic serv-

ices are needed. Schools, courts, health and welfare departments are constantly harassed by individuals with mental derangements; i.e., juvenile delinquents, epileptics, the problem child, the feebleminded, etc., and all of these agencies should have diagnostic facilities available for the problem cases. Unless they do, they spend an undue amount of time struggling with the mentally deranged and maladjusted and are not able to provide as good a service to the community as they should.

2. *Preventive.* Actually very little of the preventive health service is carried out by the mental health clinic or mental health program. It is concerned with specified efforts to deal with community life to reduce the frequency with which personality and mental disorders occur. Three general divisions of this category may be described.

(a) Those where the disease has a recognized organic cause which is preventable. In this group falls such diseases as syphilis of the brain, pellagra, encephalitis, acute infections, intoxication, etc.

(b) The second deals with the phychoses where the cause is as yet unknown. For example it is believed if the primary relationship that the young child has during his first years of life is disturbed, he is more apt to develop mental illness. Prevention here encompasses the implication of maternal separation, of adoption, and child placement practices and of the visiting regulations on the pediatric wards of the general hospitals.

(c) The third type of preventive service is designed to prevent maladjustment and emotional disturbance in children. Most children who develop disturbances of this type do so during the first few years of life. If the parents are aware of and understand the problems of rearing a child, many of these emotional disturbances can be avoided. The obstetricians, pediatricians, and general practitioners can be of great service if they will take time to talk with and advise the parents.

3. *Follow-up Treatment and Rehabilitation.* Many patients need further treatment after they have been discharged from the mental hospital. Unfortunately they are not aware of the need of continued treatment and unless they are kept under supervision, stop treatment too soon. This results in unnecessary relapses and unnecessary readmissions to the hospital. Many patients, when discharged from the hospital, are not able to go back to normal community life and activity. These patients need help in getting a suitable job and finding a satisfactory place to live. Also, they should be kept under observation. The community should provide for these needs of the discharged patients.

4. *Educational.* These services have three objectives:

(a) To educate the public in a general way about mental health problems, the symptoms of mental illness, the desirability of early diagnosis and treatment, how to get the patient under treatment, and what to expect when the patient returns from a mental institution.

(b) The thinking of the public must be re-orientated in regard to mental illness. They must be taught to realize that the psychotic patient is just as physically ill as the patient with a coronary or rheumatoid arthritis. Just because we can't put our finger on the altered anatomy and physiology does not mean that such does not exist, simply

that we cannot demonstrate it. The sooner and more completely the public forgets the mystery and stigma associated with mental illness, the more rapid and certain our progress will be.

(c) This phase of the service is carried out by professional mental health personnel to other professional personnel who have contact with individuals who are in need of treatment or guidance—teachers, ministers, physicians, policemen, welfare department workers, etc. Because of their special responsibilities they should have as complete an understanding of mental health as possible. The better these individuals understand the different phases of mental health, the more useful the program is in the community.

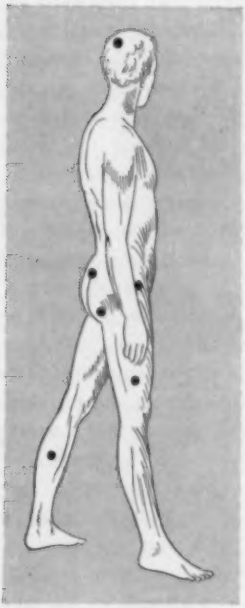
5. *Consultative.* These are the services rendered by trained mental health personnel to the professional staff of other public agencies, such as schools, welfare, courts, health departments, etc. They deal with the questions regarding the mental status and abilities of an individual to fit into the usual practices of the agency seeking the consultation. They should also provide service for physicians and hospitals regarding the mental status of patients and inmates.

6. *Statistical data.* Statistical information is largely lacking on the local level concerning mental illness. If a program is to be planned and properly carried out the community must know more about mental illness. It is necessary for establishing base lines for comparison with future statistical data to determine trends in mental health problems. It would appear that a great part of this information is available and could be compiled without too serious trouble. For example, in many areas the court clerk has information on patients admitted to state institutions, the welfare department on juvenile delinquency, feeble-minded, etc. Seemingly, the health department would be the logical agency to compile these data.

Summary

These, in brief, are the mental health services most needed in the local community. In developing a local mental health service, a word of optimism, as well as caution, is necessary. A community cannot expect all of its mental health problems to be solved by a mental hygiene or child guidance clinic, nor by any other sort of program that may be developed. On the other hand, a well-planned program, in which personnel from various disciplines take part, including not only personnel specialized in mental illness, such as psychiatrists and psychologists, but the general practitioner, and the public health nurses, as well as school teachers, ministers, policemen, etc., much good can be accomplished. Certainly we are going to be faced with serious mental health problems for a long time. The sooner we make a serious effort to improve conditions at the local level, the sooner we may hope to lessen the ill effects of these diseases.

Forsyth County Health Department



CHRONIC ULCERS

Treatment with Papain-Urea-Chlorophyllin Ointment in Cases Resistant to Anti-bacterial Therapy

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In this age of antibacterial therapy, it is not unusual to find broad-spectrum antibacterial agents used widely, and recommended by authorities, for the treatment of conditions in which entirely different types of medication have a more rational application. The local treatment of decubitus and varicose ulcers fall into this category. Pathogenic organisms are ordinarily present in the exudate of such lesions, so the tendency is to employ a suitable antibacterial to control infection and to rely on the measures taken to remove local pressure, circulatory or nutritional deficiencies and other causative factors of an environmental or systemic nature to effect healing. This overlooks local factors which may be equally or more important in retarding healing.

Ulceration is by definition a necrotic process, and the nonhealing ulcer invariably contains certain amounts of devitalized tissue. This serves as an ideal breeding ground for bacteria, but it has been stated[1] that parenteral or local antibiotics cannot be effective in the presence of necrotic tissue. Nor is it likely that the humoral mechanisms of the body can plan an important role in the wound healing if capillary and lymphatic circulation is impaired by the presence of necrotic tissue, fibrin clots, and viscous exudate.

Reliance on antibacterial therapy alone would therefore appear to be a mistake. A more rational approach to the local treatment of chronic ulcers should concern itself instead with the removal of the devitalized tissue and fibrinous exudate which retard healing. This clinical report therefore describes the use of a medication which is intended to 1) clean up the wound by enzymatic action, 2) unblock capillary and lymphatic circulation, and 3) main-

tain optimal local conditions as healing progresses. All of the chronic ulcers which we will report in this study had previously resisted prolonged therapy with antibacterial agents.

Clinical Procedure The preparation used was a hydrophilic ointment* containing standardized papain, ten percent, urea U.S.P., ten percent, and water-soluble chlorophyll derivatives, 0.5 percent. Papain is a proteolytic, fibrinolytic enzyme which, when combined with urea, is a potent digestant of necrotic tissue, fibrin clots and the nucleoprotein matter of purulent exudate.[2, 3, 4] The primary function of the urea in the ointment is as a protein solvent to render the necrotic tissue and debris easily susceptible to proteolytic digestion. The chlorophyll derivatives serve to neutralize the potentially irritative effects of protein-breakdown products, thereby making possible the continuous use of the proteolytic combination, and to promote healthy granulations.[5, 6] Previous trials of this preparation, with and without the chlorophyll derivatives, have demonstrated the essential character of these ingredients.[2, 3, 4] It was not felt necessary to duplicate that work.

The papain-urea-chlorophyllin ointment was applied under gauze pads as a continuous dressing, which was changed daily in most of the patients or twice daily during the initial period when exudate was profuse. At the time of changes of the dressings any accumulated liquefied matter was removed from the lesion by irrigation with warm saline solution. During the course of treatment no other local medication or parenteral antibiotic was employed, but the same thorough nursing and nutritional care was given these patients as during the periods of prior unsuccessful treatment with other medications.

A total of thirty-seven patients with ulcers resistant to other types of therapy were treated. Seven were hydrocephalics with pressure ulcers of the scalp; eighteen were epileptics, spastics or mental defectives with decubitus ulcers of the sacrum, ischium or trochanters; and twelve were similar patients with traumatic leg ulcers associated with poor circulation, one complicated by diabetes. A detailed breakdown is contained in Table I: All of the ulcers had previously been treated unsuccessfully with antibiotic or antibacterial ointments for periods of from twenty-four days to three years. In many cases, vitamin ointment and ichthyol ointment were also tried without success. These local measures were supplemented by surgical debridgment when excessive necrotic tissue was present.

In the hope of developing some technical data on the action of the test medication, bacteriological cultures were taken in all instances before and after treatment. The procedure employed was to wait three days following termination of the antibacterial therapy before taking the first culture. Immediately afterward, treatment with the papain-urea-chlorophyllin was begun and was continued until the lesion was clean and starting to granulate (usually five to twelve days), at which time all medication was withheld for three days and then the second culture taken. Treatment with the papain-urea-chlorophyllin was then reinstituted until complete healing was obtained. The three-day waiting period before the cultures were taken was designed to eliminate the pos-

* Panafil Ointment, Rystan Company, Mount Vernon, N. Y.).

TABLE 1

CASE	PRIMARY DIAGNOSIS	COMPLICATION	INITIAL TREATMENT OF ULCERS			CULTURES		RESULTS OF PANAFIL TREATMENT	
			LOCAL MEDICATION	DURATION	RESULTS	BEFORE PANAFIL	AFTER PANAFIL	NO. OF DAYS UNTIL ULCER ENTIRELY CLEAN AND GRANULATING	NO. OF DAYS UNTIL HEALING COMPLETE
1 JH	Hydrocephalic—Severe	Decubitus ulcers of the right hip with necrotic eschar	Antibiotic and vitamin ointments	48 days	Little improvement if any.	Str. hemolyticus	Str. Viridans	12	30
2 VD	Hydrocephalic—great enlargement of the head	Pressure ulcer of the scalp with necrotic eschar	Antibiotic and vitamin ointments	40 days	Very little change in the ulcer.	Staph. albus	Pr. vulgaris	10	36
3 VS	Hydrocephalic with great enlargement of the head	Pressure ulcer of the scalp with purulent infection	Antibiotic and ichthyol ointments	60 days	Ulcer healed approximately 15%, little improvement in secondary infection.	E. Freundii	B. Subtillis	7	40
4 HB	Mental Defective	Leg ulcer with necrosis due to circulatory disturbance	Antibiotic ointments	90 days	Intermittent healing and breakdown, never completely healed. Eschar remained at all times.	Staph. aureus	No growth	14	48
5 GB	Athetoid Spastic	Leg ulcer, traumatic, some secondary infection	Antibiotic and ichthyol ointments	36 days	Most infection cleared, but showed very poor healing.	Undifferentiated Staph.	No growth	7	24
6 FB	Hydrocephalic, Hemiplegia	Leg ulcer, infected, due to poor circulation	Antibiotic ointment	24 days	Very poor healing.	Staph. albus	Str. faecalis	6	14
7 TR	Mental Defective	Leg ulcer, traumatic, with necrotic eschar	Antibiotic and ichthyol ointments	90 days	Ulcer intermittently healed and broke down. Eschar remained most of the time.	Staph. albus	No growth	14	36
8 MC	Epileptic with extreme deterioration	Decubitus ulcer of the scalp with necrotic eschar	Antibiotic and vitamin ointments	60 days	Very little healing occurred; eschar remained at all times.	Str. faecalis and Staph. albus	Staph. albus	14	36
9 CL	Epileptic with severe brain deterioration	Decubitus ulcer, sacral, with necrotic eschar	Antibiotic and ichthyol ointments	120 days	Intermittent healing and breakdown.	Candida albicans	No growth	24	45

10 DE	Spastic and Epileptic	Decubitus ulcer of the left hip with necrotic eschar—very deep	Antibiotic ointments	90 days	Very poor healing, eschar remained.	Staph. albus and C. welchii	C. welchii	24	60
11 DT	Mental Defective, very low grade	Decubitus ulcer on the right buttock	Antibiotic ointment	48 days	Intermittent healing and breakdown.	Pr. morganini and Staph. albus	Staph. albus	14	24
12 LF	Spastic	Decubitus ulcer in the sacral area	Antibiotic and ichthyol ointments	48 days	Intermittent healing and breakdown; never completely healed.	Staph. albus	Staph. citreus	14	30
13 VK	Mental Defective	Leg ulcer with necrotic eschar due to poor circulation	Antibiotic and ichthyol ointments intermittently for 3 years	3 yrs.	Never completely healed.	Pr. Mirabilis	No growth	—	60
14 NH	Mental Defective	Decubitus ulcer with necrotic eschar of rt. hip	Antibiotic ointments	48 days	Eschar remained; very little, if any, healing.	Pr. Mirabilis	No growth	14	24
15 AT	Spastic	Decubitus ulcer of the sacral area	Antibiotic and ichthyol ointments	90 days	Intermittent healing and breakdown; never completely healed.	Neisseria oxidase—positive organism	C. welchii	14	45
16 NT	Mental Defective	Leg ulcer due to poor circulation and trauma	Antibiotic and vitamin ointments	60 days	Very little healing or improvement.	Staph. aureus, C. welchii	Clostridium (type not determined)	14	45
17 JG	Mental Defective, Diabetic	Diabetic leg ulcer with much secondary infection	Antibiotic ointments	70 days	Very little healing; infection fairly constant.	Staph. aureus	No growth	14	48
18 AD	Hydrocephalic with pre-enlargement of the head	Decubitus ulcer of the scalp with necrotic eschar	Antibiotic and ichthyol ointments	120 days	Eschar not cleared; poor healing.	E. Freundii	Staph. albus	24	60
19 ZE	Hydrocephalic	Decubitus ulcer of the scalp with necrotic eschar	Antibiotic and ichthyol ointments	98 days	Very little improvement; some marginal healing; eschar remained.	Staph. aureus	A. aerogenes	10	48
20 EZ	Spastic	Decubitus ulcer left buttock—infected but not necrotic	Antibiotic ointment	48 days	No change.	Pr. vulgaris	Pr. vulgaris	10	36

CASE	PRIMARY DIAGNOSIS	COMPLICATION	INITIAL TREATMENT OF ULCERS			CULTURES		RESULTS OF PANAFIL TREATMENT	
			LOCAL MEDICATION	DURATION	RESULTS	BEFORE PANAFIL	AFTER PANAFIL	NO. OF DAYS UNTIL ULCER ENTIRELY CLEAN AND GRANULATING	NO. OF DAYS UNTIL HEALING COMPLETE
21 EY	Epileptic with deterioration	Leg ulcer due to poor circulation	Antibiotic and ichthyol ointments	60 days	Very poor healing.	Staph. aureus, Clostridium (not identified)	Staph. aureus	14	50
22 RK	Epileptic with deterioration	Decubitus ulcer with necrotic eschar on the left hip	Antibiotic and ichthyol ointments	78 days	Intermittent healing and breakdown; never completely healed; eschar never cleared.	Pr. rettgeri	No growth	14	60
23 EW	Epileptic, Mental Defective	Leg ulcer due to trauma	Antibiotic ointments	48 days	Very little healing.	Staph. aureus	Pr. vulgaris	7	24
24 DB	Athetoid Spastic	Traumatic leg ulcer, multiple	Antibiotic ointments	36 days	Very little healing: secondary infection persisted.	Staph. albus, non hemolytic, gamma strept.	Pr. organic	10	24
25 HW	Mental Defective	Leg ulcer, traumatic	Antibiotic ointments	24 days	No healing; some secondary infection.	Staph. aureus	Gamma strept.	7	24
26 JW	Epileptic—Left Hemiplegia—deterioration	Leg ulcers, traumatic	Antibiotic ointments	48 days	Very little healing — much secondary infection.	A. aerogenes	No growth	14	36
27 JN	Gargoylism	Decubitus ulcer of the sacral area with necrosis	Vitamin, ichthyol and antibiotic ointments	120 days	Very little change—no healing, the necrotic eschar remained.	B. Vincenti, str. faecalis	B. Vincenti	24	48
28 MF	Spastic	Decubitus ulcer with necrotic eschar of the right hip	Antibiotic ointments	78 days	Very little change.	Staph. aureus	Alpha strept.	24	60

29 JL	Spastic	Decubitus ulcer—secondary infection	Ichthyol and antibiotic ointments	60 days	Very little change; some marginal healing.	Staph. aureus	Staph. aureus	10	60
30 FB	Athetoid Spastic	Decubitus ulcer of the right hip	Antibiotic ointments	48 days	Approx. 25% healing in 48 days. Secondary infection still present.	Pr. rettgeri	No growth	10	30
31 SP	Mongolism, Congenital	Decubitus ulcer of the sacral area	Antibiotic and ichthyol ointments	24 days	No improvement.	B. subtillis	Staph. albus	7	24
32 KW	Epileptic with deterioration	Decubitus ulcer with necrotic eschar of sacral area	Antibiotic and ichthyol ointments	78 days	Fluctuated in size, eschar remained present throughout.	Str. brucallis or praecalis and Staph. albus	Str. praecalis	10	40
33 LG	Spastic	Decubitus ulcer of rt. hip	Antibiotic ointments	40 days	Approx. 25% healing; infection remained.	Staph. aureus	Pr. Faecalis	10	30
34 LB	Spastic, Cerebral Palsy	Decubitus ulcer of the sacral area	Antibiotic and ichthyol ointments	48 days	Very little healing; secondary infection remained.	Pr. vulgaris, E. Freundii	Str. neoformis	7	24
35 LK	Hydrocephalic	Decubitus ulcer of the scalp	Antibiotic ointments	60 days	Very little change in appearance; 10 to 15% healing.	Staph. albus Candida albicans	Staph. aureus	10	40
36 GN	Epileptic with severe deterioration	Decubitus ulcers of the hips and heels. That of the hips very deep—exposing the bone	Vitamin, ichthyol and antibiotic ointments	90 days	Very little change; necrotic eschar remained; patient progressively getting worse.	Staph. aureus, C. botulinum	Pneumococcus and C. botulinum	—	Hips—120 (ready for skin graft) Heels—75
37 JO	Hydrocephalic	Decubitus ulcer of the scalp with necrotic eschar	Antibiotic ointments	36 days	No healing; eschar remained.	Alpha strept.	No growth	10	30

sibility that they might be affected by residual amounts of the medications in the lesions.

Results As will be noted in Table I, in thirty-six out of thirty-seven patients the ulcers were cleaned up promptly and complete healing was obtained in from fourteen to sixty days depending on the size and depth of the lesion. In the remaining patient, a severely deteriorated epileptic with deep ulcers of the hips which had resisted previous therapy for ninety days, the ulcers were ready for skin grafting in one hundred and twenty days. Less serious decubitus ulcers of the heels in the same patient were completely healed in seventy-five days.

The debriding action of the papain-urea-chlorophyllin ointment was notable in all cases, and it is our impression that it was more effective in this regard than other enzyme preparations. Necrotic tissue was effectively dissolved without injury to the viable tissues, and when a purulent exudate was present initially, its viscous character changed promptly to a serous fluid.

Continued use of the ointment after the ulcers were clean and granulating appeared to promote healing at a rapid rate. Having no control wounds in this series, we cannot report categorically on the healing rate, but it was our impression that the time required for complete healing was approximately one-half of what we had come to expect in successful cases of antibacterial treatment of similar ulcers in similar patients. Of major significance was the fact that though all thirty-seven patients in the series had been resistant to previous treatment for extended periods, successful healing was obtained in every case treated with the papain-urea-chlorophyllin ointment. There were no reactions to the medication at any time.

The bacteriological data included in Table I is inconclusive, but it may be instructive. Many types of organisms were identified in the various ulcers after prolonged antibacterial therapy and prior to treatment with the papain-urea-chlorophyllin ointment. After several days' treatment with the latter, no bacterial growth was obtained in cultures from eleven of the thirty-seven patients. In the remaining twenty-six cases, bacteria were still present in the lesions after treatment even though the ulcers were clean and granulating. The organism present in the lesion was in many cases different from that which had been cultured from the same lesion prior to treatment, but there appeared to be no definite pattern of change in the bacterial flora of these lesions. Since bacterial colony counts were not taken, it is not known whether the size of the bacterial populations was affected in any uniform manner, but the absence of growth in the cultures from eleven patients is suggestive of such an effect.

It is interesting to note that the results obtained with the papain-urea-chlorophyllin ointment were not affected by the type of organism present in the exudate, either before or during the course of treatment. Where there was infection still present after prolonged treatment with appropriate antibacterials, it cleared up promptly. This does not mean that the papain-urea-chlorophyllin ointment is to be considered an antibacterial agent, but rather that the low-grade infections in chronic ulcers, which may be only incidental to the primary lesion in any case, are readily controlled by removing the necrotic substrate upon which the bacteria feed, and thus permitting the

humoral mechanisms of the body to function. This is not to say that the concomitant use of a parenteral antibiotic may not be necessary when severe infection is present, though such a situation did not arise in this series of patients. It is the use of antibacterial therapy as the sole or primary local treatment of chronic ulcers that to us seems unjustified. Our experience indicates that the continuous use of antibacterial substances, even when switching periodically from one to another, is of limited value in the chronic infections of ulcers and does not contribute to overcoming the mechanical factors which govern healing.

The papain-urea-chlorophyllin ointment has fulfilled the basic requirements of a local agent for chronic ulcers, as we see them, as well as or better than any medication previously used. It is, in addition, a convenient dosage form which is easily applied and requires no mixing or diluting. The fact that dressings are simple and changed only daily has obvious advantages over wet dressings applied several times per day, especially where nursing personnel is in short supply or where it is desired to devote more nursing time to other patient needs. Of importance to all institutions, as well as to private patients, is the fact that this preparation is considerably more economical than previously available enzyme products.

Summary

1. Infection is only one of several local factors which may retard healing of chronic ulcers. Antibacterial treatment of such conditions is relatively ineffective when necrotic substrates suitable for the growth of pathogenic organisms are present, and such therapy does not contribute to overcoming the mechanical factors which govern healing.

2. A more rational approach to local treatment of chronic ulcers appears to be provided in the form of an ointment containing the enzyme, papain, with urea and water-soluble chlorophyll derivatives. This medication is intended to 1) clean up the wound by proteolytic action, 2) restore capillary and lymphatic circulation, and 3) maintain optimal local conditions as healing progresses.

3. A clinical study is reported in which thirty seven instances of chronic ulcers which had resisted prolonged antibacterial therapy were treated with the papain-urea-chlorophyllin ointment. In thirty six patients cases complete healing of the ulcers was obtained in fourteen to sixty days, depending on the size and depth of the lesion. The other patient was effectively prepared for skin grafting.

4. Bacteriological data from these patients indicates that results with papain-urea-chlorophyllin ointment are not affected by the type of organism present. Local infection was uniformly eradicated without the use of antibiotics.

5. There were no reactions to the medication in this series.

6. It is concluded that papain-urea-chlorophyllin ointment provides more effective local treatment of chronic ulcers than any medication or combination of medication previously employed by the writer.

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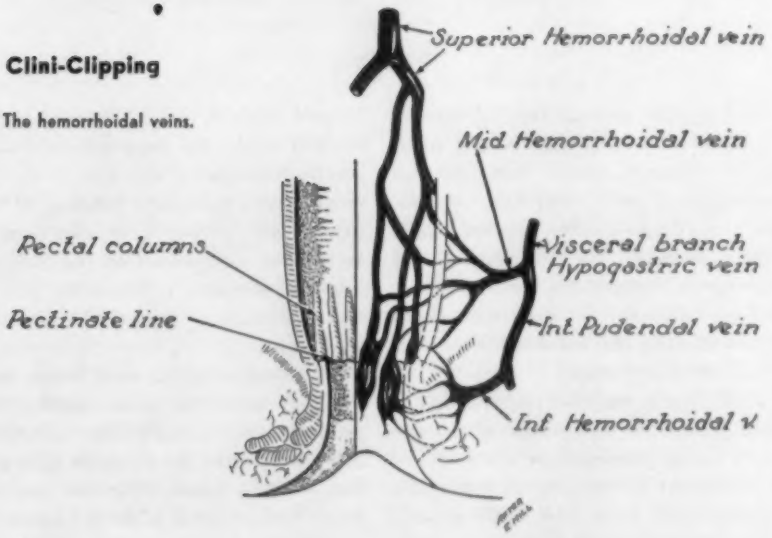
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Florida Farm Colony

Clini-Clipping

The hemorrhoidal veins.



Current Treatment

Parkinson's Syndrome

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Parkinson's syndrome, as an entity, is well-defined, but its pathogenesis is only partially understood. It is generally attributed to damage of the globus pallidus, substantia nigra, and other basal nuclei with the consequent release of the lower centers.

The majority of cases can be classified into one of three groups: (1) postencephalitic, (2) arteriosclerotic, and (3) idiopathic.

Postencephalitic Parkinsonism occurs from months to years following an episode of acute encephalitis. It is observed most commonly in the 3rd, 4th, and 5th decades and is frequently associated with autonomic dysfunction (excessive salivation and sebaceous secretion), oculogyric crises, weakness of convergence, fluttering of eyelids, and impaired pupillary response to light.

The diagnosis of arteriosclerotic Parkinsonism is made on the basis of clinical evidence of arteriosclerosis in other systems and is, of course, most common in elderly individuals. The onset of idiopathic Parkinsonism is usually in late middle life; this type is generally diagnosed when there is no preceding history compatible with encephalitis, and no clinical or pathologic findings of arteriosclerosis.

All three types are frequently associated with emotional and behavioral disturbances and an exacerbation of symptoms is commonly observed under moderate or severe emotional distress. Trauma, infections, and surgical procedures often increase the intensity of symptoms. Rarely, Parkinson's syndrome may result from toxic, traumatic, or neoplastic damage to certain areas of the extrapyramidal system. The symptoms and signs of Parkinsonism are well known and will not be discussed here.

Medical Therapy There are several complicating factors in the evaluation of any type of treatment for Parkinson's syndrome. Most investigators have relied on the subjective improvement reported by the patient or his family, while others have attempted to devise objective methods for measuring improvement of spasticity and tremor. It has been difficult to devise objective tests which are sufficiently reliable and accurate. Patients will often become greatly enthused over a subjective improvement which is completely absent when observed objectively.

Other factors to be considered are those mentioned above, namely the exacerbation of symptoms by trauma, infections, surgery, and particularly, emotional disturbances. In some pa-

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tients hypnosis can decrease or abolish tremor. Rigidity and tremor are reduced in the majority of patients when the environment is tranquil.

Many investigators have studied the role of personality in the prognosis of Parkinsonism, and the response to treatment. The conclusions reached by Markovich and Schwab,[1] who followed 65 cases of Parkinson's syndrome for 3 to 5 years, were that, irrespective of the type of treatment employed, 62% of patients who would be classified as neurotics, including chronic worriers and complainers, depressives, those with intense drive who were subject to mood swings, manifested a progression of symptoms, while only 25% of patients with fairly stable personalities demonstrated an increase in symptoms.

It is generally accepted that the amiable individual, as well as the dependent, passive type responds favorably to treatment. The tense, ambitious patient is less responsive to therapy because he is completely unwilling to accept the disability and is constantly striving for complete cure.

Another complication in the evaluation of the efficacy of various medications is the tolerance eventually acquired by many patients to a drug which was originally beneficial. Suggestion is assumed to play a role in some of these cases.

Although various investigators have reported higher percentages of improvement, especially with the newer drugs, many ascribe to the pessimistic view that no known regimen produces more than 25 to 35% improvement.

In an excellent review on the drug therapy of Parkinsonism, Drake[2] classifies the commonly accepted drugs into 3 main groups: (1) the synthetic antispasmodics, (2) the solanaceous (potato plant) products, and (3) the synthetic antihistamines.

A. Synthetic Antispasmodics

1. Artane® (Trihexyphenidyl, Lederle). This drug is especially valuable in decreasing muscle spasm. It often relieves the depression and inertia observed in Parkinsonism, although at times Benzedrine or Dexedrine is required to combat depression. Artane has one-half the antispasmodic action, one-eighth the antisialagogue effect, and one-tenth the cardiovagal inhibition of atropine. It is supplied in 2 and 5 mg. tablets and in elixir form.

When Artane is used as the initial treatment, the dosage usually recommended is 1 mg. the first day, 2 mg. the second day with increases of 2 mg. per day until a total of 6 to 10 mg. daily in 3 or 4 divided doses is given. Postencephalitic patients usually require larger doses of Artane (or of any other drug) than do the arteriosclerotic, or idiopathic types. It must be emphasized here that no hard and fast rule can be observed in determining the dosage of any drug. This depends upon patient response and evidence of toxicity. If toxicity occurs before maximum benefit is obtained, it is well to reduce the dose to the level achieved prior to the onset of toxic symptoms, maintain this dose for at least one week, and then attempt to increase it gradually. Needless to say, if toxicity recurs, a gradual discontinuance of the drug and substitution of another drug, or the supplementation of the drug at a lower dosage with small doses of other similar drugs should be considered.

For patients with excessive salivation Artane is preferably administered after

meals and in severe cases small amounts of atropine may be required as supplemental therapy. Some investigators believe that Artane should almost always be employed in conjunction with the solanaceous drugs, such as scopolamine, tincture of belladonna, Vinobel®, etc. and if tremor is pronounced, these drugs will usually be a necessary addition to the regimen. Artane is especially valuable in the treatment of arteriosclerotic Parkinsonism, in contrast to atropine, because it is believed that it will not precipitate glaucoma. Most observers feel that Artane is the drug of choice, especially for the arteriosclerotic and idiopathic types.

Doshay et al.[3, 4] recently reported a 5 year follow-up of 411 patients treated with Artane. The mean of the current ages of the patients was 41-45 in the postencephalitic group, 51-55 in the idiopathic group, and 61-65 in the arteriosclerotic group. The dosage varied between 2 to 7.5 mg. per day in the arteriosclerotic patients, 6 to 10 mg. per day in the idiopathic cases, and 7.5 to 30 mg. per day in the postencephalitic patients. Seventy-eight per cent had taken Artane for 1 to 5 years. Good improvement was observed in 73% of all cases. Forty three per cent of the improved cases had been taking the drug for 3 to 5 years at the time of the report. Surprisingly, Artane was almost as effective against tremor (51%), as against rigidity (53%). Improvement was higher in the postencephalitic and idiopathic groups (77%), than in the arteriosclerotic group (65%).

Doshay et al. believed that the continued improvement observed in those patients who had been taking Artane for 3 to 5 years "would seem to indicate that there is little increase in tolerance to Artane." Other investigators have observed a tolerance to this drug as well as to others. Doshay et al. recognized the limitations of the results obtained in their survey, since the study was not controlled.

Side reactions to Artane are somewhat uncommon. They include dryness of the mouth, soreness of the mouth, nausea and vomiting, blurring of vision, dizziness, nervousness, mental confusion, memory impairment, excitement, visual and auditory hallucinations, headache, tinnitus, and generalized pruritus. Severe reactions are usually noted only after prolonged treatment with excessive doses.

2. Pipanol® hydrochloride (Winthrop-Stearn's brand of Trihexyphenidyl hydrochloride). This drug is identical with Artane in effectiveness, in dosage, and in side-effects.

3. Pagitane® hydrochloride (Cycrimine hydrochloride, Lilly). This is a new potent antispasmodic drug chemically similar to Pipanol and Artane. It is generally as effective in the treatment of arteriosclerotic and idiopathic Parkinsonism as Artane and Pipanol but it is believed to be more valuable in the treatment of postencephalitic Parkinsonism. It decreases rigidity and often diminishes tremor. Oculogyric crises have been controlled when all other drugs employed have been ineffective[5, 6]. Pagitane is an antisialagogue and is highly effective as a cerebral stimulant. It has one-half the antispasmodic effect, one-tenth the inhibitory action on the cardiac vagus, and one-tenth the antisialagogue potency of atropine.

It is supplied in 1.25 mg. and 2.5 mg. tablets. According to Drake, the recom-

mended initial dosages are: idiopathic and arteriosclerotic Parkinsonism, 1.25 mg. t.i.d., postencephalitic cases, 2.5 mg. t.i.d. with gradual increase to tolerance over a 7 to 10 day period. In most patients with the idiopathic or arteriosclerotic type, a maintenance dose between less than 7.5 up to 15 mg. per day is effective and usually non-toxic. The postencephalitic type often tolerates and requires doses as high as 30 mg. per day.

Zier and Doshay,[7] in a recent report on 142 patients treated with Pagitane, recommended beginning treatment with 2.5 mg. t.i.d. in younger patients, and only 1.25 mg. b.i.d. in older patients, and then very slowly increasing the dose by adding either a half or a whole tablet each week, until the desired level is achieved. Their optimal maintenance dose ranged from 2.5 to 5 mg. three to five times a day among the younger patients and from 1.25 to 2.5 mg. two or three times a day among the older patients.

All 142 patients who comprised the study had failed to improve with other medication prior to the introduction of Pagitane. Their ages ranged from 37 to 77 and they were about equally divided among the three types of Parkinsonism. The authors observed improvement in 66%. Nine out of 18 with oculogyric crises experienced complete relief or a decrease in frequency and severity of attacks. In a few cases the attacks could be aborted by 5 or 10 mg. of Pagitane taken prior to the onset, which could usually be recognized by a "tightening" in the ocular muscles.

Seventy-two per cent of the group were receiving other drugs in conjunction with Pagitane, at least for brief periods. In most patients, however, Pagitane was the basic or only drug employed for months. In 20% of the improved cases tolerance to Pagitane was observed after 3 to 6 months.

The side effects of Pagitane are similar to those of Artane. Magee and De Jong[8] reported that Pagitane is not only more potent than Artane in beneficial effects but also in side reactions. Of the three types of Parkinsonism, arteriosclerotic patients are most prone to develop toxic manifestations, including psychotic symptoms which disappear several days after discontinuance of the drug. It is contraindicated in tachycardia, urinary retention, and glaucoma. Zier and Doshay, on the other hand, noted no disturbing side effects among their cases. They believed that Pagitane is more potent than Artane and less prone to produce side effects.

4. Kemadrin® (Burroughs Wellcome). This drug is structurally similar to Artane and Pagitane; it is available in 5 mg. tablets. In a recent study by Schwab and Chafetz[9] of 87 patients who were followed for a period of 3 to 20 months, improvement was observed in 52%. Most of these patients required Benadryl® or Thephorin® in conjunction with Kemadrin for maximal benefit. Kemadrin was introduced into the patients' therapy by gradual substitution. Usually 2.5 mg. t.i.d. was given initially and if this was tolerated, the dosage was increased to 5 mg. t.i.d. and occasionally q.i.d. In several cases smaller doses were employed, while in a few a total dosage of 40 to 60 mg. daily was required. The side effects of Kemadrin are similar to those of Artane. In this series Kemadrin was adjudged 13% more effective than Artane.

5. Parsidol® (Ethopropazine hydrochloride, Warner-Chilcott). This drug is available in 10, 50, and 100 mg. tab-

lets. It reduces both rigidity and tremor, although it is generally believed to be of greater value in the control of rigidity. The usual recommended initial dose is 10 mg. q.i.d. with a gradual increase over a 2 week period to 150 to 200 mg. per day in divided doses. Severe cases may require further increases to 500 or 600 mg. per day.

The toxic effects are similar to those observed with Artane; however, most reports state that they are more common and more severe. Some investigators are of the opinion that Parsidol is the drug of choice for the treatment of all new cases of Parkinsonism, regardless of etiology, while others believe that its effectiveness is similar to that of hyoscine or that it is a valuable adjunct when combined with drugs such as hyoscine, Artane, Benadryl.

Doshay et al.[9] treated 147 Parkinsonian patients, about equally distributed among the three main types, with Parsidol. These patients had failed to respond to other medication and/or their symptoms were progressing to the point of uncontrollability. They observed that 10 mg. tablets had no physiological action beyond that of a placebo. Therefore only 50 and 100 mg. tablets were employed throughout the study. Surprisingly, elderly patients appeared as readily able to tolerate large doses as the young. The initial dosage recommended by Doshay et al. for patients with mild to moderate symptoms is 50 mg. t.i.d. with a gradual increase to 100 mg. t. or q.i.d. Hypersensitive patients may be started on 25 mg. t.i.d. with gradual increase to maximum tolerance. Patients with advanced Parkinsonism may receive 100 mg. t.i.d. initially with a rapid increase to 500 mg. per day. Maximum benefits are obtained when Parsidol is combined with other anti-Parkinson drugs.

Satisfactory improvement was observed in 45% of the cases. In this study it was noted that 41% of patients with muscular rigidity demonstrated a diminution of the symptom. Of those patients with major tremor, 69% were greatly improved, while 54% of those with minor tremor were improved. The authors found that Parsidol has a "highly selective action against major tremor such as no other current medicament provides. Severe side effects were not observed with the drug. Drowsiness, lassitude, dizziness, and blurring of close vision were the most frequent complaints.

Agate et al.[10] employed an electronic apparatus to measure the changes in rigidity and tremor in 13 patients from the aforementioned group. A comparison was made between the findings during placebo therapy and Parsidol therapy. A statistically significant improvement in rigidity was obseved in 55%, during Parsidol therapy. Improvement in tremor occurred in 69%, but it was felt that for technical reasons the latter had little statistical significance. Replacement of the drug by a placebo caused an increase in rigidity, usually in a gradual manner, over a period of 3 to 10 days.

6. Panparnit® (Geigy). This drug is available in 12.5 mg. and 50 mg. tablets. The usual recommended initial dosage is 12.5 mg. t.i.d. immediately p.c. with a gradual increase to tolerance over a period of a week until an approximate level of 50 mg. four or five times a day is achieved. The chief value is a reduction in rigidity. Reports concerning its effectiveness against tremor vary. Schwab and Leigh[11] observed it to be

less effective than the belladonna compounds, Sciarra et al.[13] noted no striking difference in results between Panparnit and the various solanaceous drugs, while Kaplan et al.[13] found it to be more effective.

There is a high incidence of the less serious side effects in both arteriosclerotic and idiopathic cases. In a series reported by Doshay and Constable,[14] dryness of the mouth and blurring of vision occurred only one-fourth as often as with Artane but other disturbing side effects were observed ten times as often.

7. Cogentin® (Benztropine methanesulfonate, Merck, Sharp and Dohme). This drug combines the active radicles of atropine and Benadryl. It is available in 2 mg. tablets. The drug exhibits a marked antispasmodic effect, acting peripherally, and appears to lack cerebral stimulating qualities. Congentin has a cumulative effect and can thus, in most cases, be administered only once or twice a day. According to Drake, the initial recommended dosage is 0.5 mg. once or twice a day for idiopathic cases and arteriosclerotic patients and 0.5 mg. t.i.d. for postencephalitic patients with gradual increases over a period of 10 days to the maximum effective level. Idiopathic and arteriosclerotic patients can usually tolerate 0.5 mg. to 2 mg. per day, while postencephalitic patients may average between 2 and 5 mg. or more per day.

It is believed to be practically nontoxic; it's chief side-effect is dryness of the mouth, which can be alleviated by administering the drug p.c. Because patients may become or remain listless and depressed with Cogentin alone, a cerebral stimulant, such as amphetamine or Artane, may be required in conjunction. If Cogentin is added to a regimen consisting of Artane with or without other drugs, the dosage of Artane should not be reduced until Cogentin has been given for at least one week. It is recommended that when the drugs are employed together, Artane should be administered a.c. and Cogentin p.c. Cogentin often causes a diminution or disappearance of the typical Parkinsonian facies. It has the ability to control severe tremor and may control sialorrhoea better than atropine.

B. Potato Plant Products

1. Hyoscine (Scopolamine). This drug is available in 0.3, 0.45, and 0.6 mg. tablets. The initial recommended dosage for older patients is 0.3 mg. per day after breakfast with an increase of 0.3 mg. per day every third or fourth day until an approximate total dose of 0.3 mg. b., t., or q.i.d. is reached. Younger patients may begin with 0.45 or 0.6 mg. per day with an increase to as high as 0.12 mg. t. or q.i.d.

Some investigators believe that hyoscine is the drug of choice in younger cases of postencephalitic Parkinsonism because they are able to tolerate larger doses of the drug with a more effective reduction of rigidity. There is extensive disagreement in the literature regarding the effect of hyoscine on tremor.

Hyoscine is said to cause dryness of the mouth and blurring of vision only slightly more frequently than Artane but the incidence of dizziness, nausea and vomiting, tachycardia, and depression is about three times as high.

2. Atropine. This drug is effective for spasm and rigidity. It is well-tolerated and valuable in postencephalitic patients, especially among the younger and more recent cases. It may be employed in small amounts in idiopathic cases but

should not be used in arteriosclerotic patients because of the danger of circulatory disturbances and glaucoma. Other contraindications to the use of the belladonna alkaloids are chronic nephritis, dehydration, and malnutrition.

If it is given in the form of an 0.5% solution of atropine sulfate, the recommended initial dosage is 3 gtt. t.i.d. with an increase of 1 gtt. t.i.d. every three days until approximately 10 gtt. t.i.d. is reached. This is the usual maximum effective dose except in cases with oculogyric crises where 15 gtt. t.i.d. may be required. Dryness of the mouth and blurring of vision are noted in most patients but these are usually tolerable.

3. Stramonium. This drug has a greater effect on tremor than on rigidity. Most investigators believe that Artane is more effective than stramonium. When it is used in tincture form, the initial dosage is 5 gtt. t.i.d. with increases of 2 gtt. t.i.id. daily until tolerance is reached. The total final daily dose should not exceed 10 times the initial day's total dose.

4. Vinobel® (Wm. S. Merrell). This drug is a root extract of domestic potato plants. It is available in tablets of 0.4 mg. and 0.8 mg. (of active alkaloids).

5. Rabellon® (Merck, Sharp and Dohme). This drug is a synthetic compound made from drugs extracted from the American belladonna root. Each tablet contains about 0.5 mg. of active alkaloids.

6. Bellabulgara® (Lederle). This drug is a root extract of Bulgarian belladonna. It cntains 0.45 mg. of the alkaloids per tablet.

The last three drugs are approximately equal in composition and have similar effects. The dosage varies from one-quarter to one-half of a tablet t.i.d. with increases of one-half of a tablet per day until the optimum dose or level of tolerance is reached. The average final dosage is between 3 and 10 tablets per day, with the higher levels required mainly in the postenceaphalitic patients.

C. Antihistamines

1. Benadryl® (Diphenhydramine hydrochloride, Parke, Davis). This drug is available in 25 mg. and 50 mg. capsules. The usual dose is 50 mg. b., t., or q.i.d. Its main effect is sedation, however, rigidity is sometimes diminished. In early cases of Parkinsonism where the symptoms may be almost negligible, Benadryl is occasionally the only drug employed. It is valuable when given in conjunction with the antispasmodic drugs and is usually included in these regimens.

The most frequently encountered side-effect is drownsiness, which may be counteracted by amphetamine or by substituting Thephorin for Benadryl. Other reactions, which are usually mild in nature, include gastrointestinal distress, dizziness, uncoordination, easy fatigability, blurring of vision, and dryness of the mouth.

2. Thephorin® (Phenindamine, Hoffmann-La Roche). This drug is available in 25 mg. tablets. It is employed as an adjuvant to the antispasmodics. Side-effects include G.I. distress, restlessness, insomnia, and rarely drowsiness, but they are quite uncommon. Schwab[15] stated that Thephorin in a usual dosage of 25 mg. q.i.d. with a maximum dose of 50 mg, q.i.d. is most effective when combined with Artane.

3. B.S. 5930. Gillhespy and Ratcliffe[16] recently reported a study employing a new drug which they classified with the antihistamines; however, in

contrast to Benadryl, it has a very much increased acetylcholine effect and a very much reduced antihistamine action. It's toxicity approximates that of Benadryl. The average recommended dosage is 50 mg. t.i.d. with a maximum of 250 mg. per day required in some cases. The authors treated 67 Parkinsonian patients and observed improvement in 58.2%. In 46% the results were considered good or excellent.

D. Radioactive Iodine

Schwab and Chapman[17] recently reported a pilot study based upon the effects of producing a hypometabolic state in selected patients with normal thyroid function and Parkinson's disease. Nine patients who fulfilled the following criteria were treated with radioactive iodine:

(1). PBI and RAI uptake in the upper range of normal or just above normal.

(2). Excessive perspiration, intolerance to heat.

(3). Marked, incapacitating, and uncontrollable tremor, especially one that increased in severity under slight or ordinary emotional tension.

(4). Difficulty in maintaining body weight.

Their objective was to produce a relative hypothyroidism and to avoid complete myxedema. The patients, while being maintained on their usual anti-Parkinson medication, were given varying amounts of RAI in one oral dose. Objective improvement was demonstrated in 6 of 9 cases. Reduction in tremor, weight gain, and decrease in nervous tension were observed. There was no objective evidence of improvement in the remaining three but two of the three stated they were calmer and less easily disturbed. Follow-up examinations were conducted at 1, 3, and 6 month intervals. Maximum improvement was noted about 4 months after treatment with RAI.

Schwab emphasized that there was no evidence that lowering the thyroid function did anything more than make the Parkinsonism more tolerable to the patient. He did not feel that the tremors were a combination of Parkinson's and thyroid tremor and that the reduction in tremor was the result of the elimination of the thyroid tremor by the hypometabolic state. Only one of the group, he stated, had levels sufficiently high that in retrospect he would have concluded that she was a mild case of hyperthyroidism plus Parkinsonism. All of the others were merely high normal values. He estimated that possibly in 10% of the Parkinson patients the above 4 criteria could be fulfilled.

Comments In commenting on the drug therapy of Parkinson's disease, Drake confirmed the general opinion that trial and error is the only method of choice. In regard to the use of the belladonna alkaloids, he stated that these drugs tend to increase the incidence of hyperthermia in Parkinsonism. Extremes of temperature are often poorly tolerated in this disease. The patients who benefit most from drug therapy are those with moderate symptoms. Early cases are often more disturbed by the side-effects of the drugs than by the symptoms, while the far-advanced cases who require large doses for benefit are more prone to experience severe toxic effects.

Those patients who have achieved their maximum therapeutic levels and suddenly discontinue medication will again require a gradual buildup of

tolerance. A rare phenomenon, which soon responds to the renewal of treatment, is the precipitation of an oculogyric crisis or a Parkinsonian crisis by the patient's omission of therapy.

Weeks to months may be required to stabilize dosages of drugs, depending upon the severity and duration of the disease, the type, the age of the patient, the drugs employed, and the personality. If a new drug is added to the regimen, it is well to begin with small dosages and gradually increase the level while simultaneously gradually decreasing the dosage of the old drug. Most patients will eventually manifest a decrease in beneficial effects from any anti-Parkinson drug, so that introduction of a new drug is a relatively frequent requirement.

Physiotherapy and Psychotherapy Posture is markedly affected in Parkinson's syndrome. A kyphotic-like stance ensued due to the weakening of the antigravity muscles and a gradual forward bending of the body.[18] The upper extremities become flexed and a lead-pipe rigidity is observed on passive manipulation. The employment of heat, massage, and manipulation may alleviate the postural defects in the early stages. Coupled with this is the necessity for an energetic psychotherapeutic approach to encourage a despondent, dejected patient who believes that institutionalization and progressive helplessness in his lot. Since voluntary effort has a controlling effect on the tremor, a planned activity during tremulous periods may serve an inhibitory function, e.g., a cane will aid ambulation and may be of value in suppressing tremor. Kyphosis may be improved by the use of spinal braces: extension postural defects by application of a head harness.

Surgical Therapy Sir Victor Horsley introduced the first surgical procedure for Parkinsonism in 1890. The cortical excision of the motor area and modifications of this operation have been mainly unsatisfactory because of the hemiplegia or hemiparesis resulting from section or removal of a portion of the pyramidal system. Extracranial surgical attempts at alleviation of symptoms included sympathetic ganglionectomies, dorsal rhizotomy, dorsal cordotomy, all of which failed to measurably improve tremor and rigidity.

Browder et al.[19] devised an empirical operative procedure for dividing the fibers of the anterior limb of the internal capsule which they believe has produced good results, abolishing the tremor and rigidity of unilateral Parkinsonism without residual paralysis. Hemiparesis of one to several weeks duration with gradual improvement was, however, observed following surgery.

Their criteria of operability consisted of patients who were below 50 years of age, physically capable of locomotion without assistance, unable to work because of tremor, and who had unilateral symptoms and signs of a relatively stationary nature.

Spiegel and Wycis[20] recently described their results in ansatomy, the purpose of which is to reduce the pallidofugal impulses by destroying the ansa lenticularis. The lesions were produced electrolytically and satisfactory improvement was observed in 4 of 6 patients, the follow-up period being, however, less than one year in all cases. The authors concluded that ansatomy is capable of reducing or completely eliminating tremor in the contralateral extremities without loss of voluntary motion, increase of muscle tone, or dis-

turbance of sensation. Occasionally a diminution of rigidity was noted.

In 1953 Cooper[21] reported a new surgical technique for the control of Parkinsonism: ligation of the anterior choroidal artery. The rationale of the procedure is contained in the fact that this artery supplies most of the structures that have been surgically ablated in an attempt to relieve intractable involuntary movements. This vessel irrigates the globus pallidus, ansa lenticularis, red nucleus, retrolenticular portion of the internal capsule, corpus luysi, substantia nigra, optic tract, and celebral peduncle. His original study included 6 patients in all of whom he obtained good to excellent results.

Rand and Orr[22] obtained disappointing results in 3 or 4 cases in which ligation of the anterior choroidal artery was performed. Doshay,[23] in a critique on anterior choroidal surgery, found it difficult to understand how further damage by means of anterior choroidal artery ligation to the already damaged extrapyramidal system could possibly benefit the sign and symtoms of Parkinsonism. He postulated, however, that perhaps by completely destroying a partially damaged structure, the state of neural imbalance is improved.

Doshay warned that the postoperative course is dangerous and unpredictable, almost all patients passing through a period of coma lasting for days to weeks and some dying during the comatose stage. He stated that most patients manifest some degree of hemiplegia, either transient or permanent. Transitory choreoathetosis has been observed. Third nerve paralysis lasting for days to months is a frequent complication, as is homonymous hemianopsia. According to Doshay, any improvement following surgery is of brief duration in most cases. Those patients who have not improved require a repeat operation on the same or opposite side. Another drawback is the positive identification of the anterior choroidal artery. There may be two, there may be anomalous vessels, or the artery may be absent. Furthermore, there is a variable anastomosis between the anterior and posterior choroidal artery, resulting in an unpredictable outcome among patients. This overlap of the vascular supply is sufficient to explain the varying postoperative complications and the rapid recovery from hemiplegia and choreoathetosis in most cases. He believes that the operation should be limited to specially selected cases below the age of 55, preferably postencephalitic in type, who have failed to respond to medication, physiotherapy, and psychotherapy and who are so disabled that the risks of surgery are justified.

In 1954 Cooper[24] published another paper in which his series had increased to 30 cases. His criteria for selection of patients included those with far-advanced Parkinsonism of longstanding with complete intractability to all conservative therapy. At the beginning of the study there was a wide range of age (36 to 88 years). However, it was soon observed that the risk of surgery was too great in patients over 60 and thereafter only postencephalitic and idiopathic types were included.

The most favorable results were noted in the postencephalitic type; the idiopathic type responded less dramatically. The resting, alternating type tremor of the distal extremities, which disappears during voluntary motion, was diminished or abolished in 9 of 11 postencephalitic cases. In 4 of these patients,

followed for 7 months to over a year, the complete absence of the tremor persisted. The ataxic type tremor, or the tremor persisting through motion, was not improved, and Cooper concluded that surgery should not be attempted in those patients in whom the ataxic type tremor was the chief complaint. The most striking result was the relief of long-standard incapacitating rigidity. In some patients there was marked improvement in speech, gait, masked facies, swallowing, posture, and paucity of automatic movements. Two instances of postoperative hemiplegia were observed among the 30 patients. The most common side-affect observed by Cooper in the postoperative period was somnolence, lasting 1 to 10 days.

Several weeks ago a further report by Cooper[28] on this procedure appeared in the literature. The group has been extended to include 50 patients. Sixty percent yielded good or excellent results, with alleviation of tremor and rigidity in the contralateral extremities. Twenty-four percent of the operations were failures and some of these were due to technical failure to obliterate the anterior choroidal artery. The fatality rate was 10%. Six percent developed hemiplegia. Transient oculomotor nerve paralysis was observed in 10%; there was a 2% incidence (1 case) of quadrantic hemianopsia. Transient choreiform movements were noted in 4%. Disorientation was common in the immediate postoperative period, but psychological studies revealed no lasting intellectual impairment in these patients.

Follow-up of his early successful cases over a period of several years revealed enduring beneficial effects. In the author's experience the use of silver clips for the obliteration of the artery is insufficient to insure complete and permanent closure; coagulation and complete dissection is essential. Perhaps this may, in part, explain the disappointing transient benefits observed by other surgeons.

Cooper, in the same report, cited his results in 125 patients in whom chemopallidectomy, by means of alcohol injections, had been performed. Good results were obtained in 70%. There were 2 deaths, 1 instance of hemiplegia, and 1 of ataxia and oculomotor nerve paralysis, among the first 50 cases. The complications which occurred in the last 75 patients are not reported. As with anterior choroidal artery ligation, the author observed lasting beneficial effects from this technique.

Summary

The current concepts of the conservative and surgical treatment of Parkinson's syndrome together with a brief review of the results obtained in several major studies have been presented. It is concluded that, while much progress has been made to date, intensive efforts are required in both medical and surgical fields, for the greater alleviation of the distressing symptoms of the disease.

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Cat Scratch Fever

This is an interesting disease concerning which it would be helpful if we knew more. It develops about three to fourteen days after being clawed by a cat or other type of feline and is characterized by fever which sometimes exceeds 104° F., swelling of the glands, and occasionally cerebral symptoms. While little is known concerning its etiology, Cat Scratch Fever is probably a viral disease which does not produce overt disease in cats or other laboratory animals. There is no specific therapy.

Use of a Bile Salt Preparation

Chronic Constipation

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The incidence of chronic constipation in a large private practice of medicine is greater than one might anticipate. To the long-familiar causes of constipation, such as emotional factors, training patterns, diet, work habits, and antacid or adsorbent medication, recent years have brought about a sharp increase in the use of anticholinergic and ganglionic blocking drugs, which have powerful constipating effects. Each patient who is constipated presents an individual problem, usually complicated by the use of cathartics of one kind or another. It is not the purpose of this communication to present a treatise on the causes and management of constipation. This study was undertaken to evaluate the efficacy of a single, simple, inexpensive cathartic.

Bile preparations are considered to be mild, physiologic stimulants to evacuation.[1, 2] In addition, they enhance the effectiveness of other stimulant cathartics.[1, 2] By supplementing the action of bile salts with safe stimulant cathartics noteworthy for their relative freedom from irritant action,[4] it was felt that a more consistent effect might be secured. This study describes experiences with such a preparation.*

Method Consecutive, ambulatory patients suffering from chronic constipation and without small or large bowel pathology, comprise the study case material. A total of 104 patients were studied. Each patient was placed under observation for at least three months prior to the use of the bile salt preparation. Dietary advice was given to each, and constipating drugs were eliminated whenever possible. Each patient was then given a supply of Veracolate with dosage instructions. The usual dose was one tablet three times daily, before meals; however the dosage was modified when necessary, always with the knowledge of the investigator. The patient underwent therapy for at least one month, and was seen weekly or contacted by telephone twice weekly during the period of observation.

Results A summary of the results observed in the total series of 104 cases is given in Table I. It will be seen that good to excellent results were obtained in seventy-six per cent of the cases, and poor results in twenty-four per cent.

Fifty-seven (fifty-four per cent) of the patients had been on previous therapy for relief of chronic constipation. Table II shows the results obtained in these cases with previous therapy and with the bile salt combination.

It is of interest that two of the patients who obtained excellent relief on

* Veracolate,® a preparation containing bile salts, extract cascara sagrada, phenolphthalein and oleoresin capsicum, Standard Laboratories, Inc., Morris Plains, New Jersey.

TABLE I RESULTS IN 104 PATIENTS TREATED WITH BILE SALT PREPARATION

RESULT	NUMBER	PER CENT
Excellent	25	24
Good	54	52
Poor	25	24
Totals	104	100

TABLE II RESULTS IN 57 PATIENTS OFFERING THERAPEUTIC COMPARISONS

	Results		
Patients on:	EXCELLENT	GOOD	POOR
Previous therapy	35 (62%)	11 (19%)	11 (19%)
Veracolate	18 (32%)	25 (44%)	14 (24%)

Key: Excellent: constipation cleared with no untoward side-effects.
Good: constipation cleared, but with occasional mild cramps and/or diarrhea.
Poor: drug ineffective in relieving constipation without producing side-effects, or results inconsistent and patient dissatisfied.

previous therapy failed to obtain satisfactory relief on the bile salt combination, whereas three of the patients who failed to secure relief from previous therapy obtained good to excellent results with the bile salt preparation.

Of the 47 patients who had not received medication previously for their chronic constipation, the results were essentially similar to those obtained for the entire series, as shown in Table III.

Particular interest attaches to those patients who were on constipating medication—anticholinergic and ganglionic-blocking drugs. Twenty-four such patients are available for comparative study. These patients were also treated previously by other means, and afford a useful group for comparison of results on bile salt therapy and previous therapy. Table IV shows the results observed in this group.

It can be readily seen that Veracolate effectively corrected the effects of the constipating drugs. Seventeen of the patients were on anticholinergic drugs to the point of tolerance, i.e., they had blurring of vision or marked xerostomia. The remaining seven were on ganglionic-blocking agents for treatment of hypertension.

Comparison of the two therapeutic approaches reveals that previous therapy in this group of patients produced 33 per cent "poor" results. The significance of this figure as contrasted with the figure obtained in the group as a whole (Table II) is not great. On the other hand, the findings in the Veracolate series are significant.

Discussion The action of the ingredients of the bile salt preparation Veracolate merit consideration. In the dosages employed for therapy, the components are considered to be mild in their action. Cascara sagrada is an emodin cathartic which acts only on the large bowel, causing an increase in pro-

TABLE III RESULTS WITH BILE SALT PREPARATION IN PREVIOUSLY UNTREATED PATIENTS

RESULTS	NUMBER	PER CENT
Excellent	7 (5)*	15
Good	29 (12)* (3)**	62
Poor	11 (1)* (2)**	23
Totals	47	100

* Patients on anticholinergic drugs.
** Patients on ganglionic blocking drugs.

TABLE IV COMPARATIVE RESULTS IN PATIENTS ON CONSTIPATING MEDICATIONS

	Results			
	EXCELLENT	GOOD	POOR	TOTAL
Previous Therapy	6	10	8	24
Veracolate Therapy	16	8	—	24

pulsive movements by a stimulant mechanism; it rarely causes griping or watery evacuation.[1, 4] Phenolphthalein combines with bile in the alkaline intestine, and the resulting complex produces mainly motor stimulation of intestinal musculature.[1] Bile salts enhance the action of phenolphthalein. Oleoresin capsicum is a potent local irritant-stimulant, frequently of value in cases of atony of intestinal musculature.

It is of interest that in the series of cases of functional constipation described by King,[2] satisfactory results were obtained in most instances by treatment with a bile preparation alone.

Evaluation of any medication without using blind-control and often double-blind-control studies is difficult.[5] In evaluating a cathartic, many problems are involved, such as: absorption of the drug, intestinal motility, dietary habits, state of health, concomitant medication, fluid intake and suggestibility; these play varying roles, not only with each individual, but in the same individual from day to day. Veracolate appeared most effective in relieving constipation induced or aggravated by anticholinergic drugs and ganglionic blocking agents. This is considered significant evidence of efficacy.

Summary

One hundred and four patients with chronic constipation were treated with a bile salt-stimulant cathartic preparation (Veracolate) for a period of one month. Seventy-six per cent had good to excellent results, and twenty-four had equivocal or poor results. The preparation exhibited

noteworthy effectiveness in cases of constipation induced or aggravated by anticholinergic and ganglionic blocking agents.

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A NOTICE TO ALL PHYSICIANS

The World Medical Association has initiated a program which the American Medical Association commends to your attention.

On July 1, 1958, the services of a Central Repository for Medical Credentials became available to doctors of the world. During war and national uprisings, medical records are often lost or destroyed. Because of this, many doctors are today unable to utilize their professional skills because of the loss or destruction of their original credentials and a lack of a protective service in which authenticated copies could be deposited. Therefore, The World Medical Association has undertaken a program to assure that the doctor will always be able to prove himself medically trained and fully accredited to practice medicine.

In the United States, the lifetime cost of the service on a one-payment basis to the newly graduated doctor is approximately $60.00. An actuarial schedule has been established for doctors in the various age groups. A 10-year service rate is also available.

Repository officials suggest that the credentials deposited include official medical school record, medical diploma, and specialist credentials. American doctors should not send their original credentials, but should send photostatic, microfilm, or notarized copies of their original credentials.

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Umigiukor
The Shaman

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My people are strong, fearless and self reliant. No group of mankind has ever developed a way of surviving in harsher environment than the eskimos. We live in a region which is decribed scientifically as tundra. The summer is too short and the winter too severe to support trees: the vegetation is made up of small perennials with brief growing periods. The main ground covers are lichens and mosses. The precipitation is so slight we could call the area a cold desert.

As months go by, my tribe moves from the sea to the tundra; this is necessary because we are a migratory people following the game (sea and land animals) which completely support our economy. Being a people continuously on the move in search of food, tents of animals' skins are used for summer living and hunting, and the igloo, or snow house is occupied only a short period of time during the severe winter months. For special tribal meetings we have a long or council house. It is composed almost entirely of stone except for the rafters which are made of whale bone and driftwood, covered with stones and sod with a small round smoke hole in the center.[1]

Ajukotog, the tribal angokok or shaman, was my father. By tradition, he had the power to communicate with souls of the living and dead. His life was dedicated to the well-being of our tribe; each spring and fall, his prayers to Sedna were answered with great success in the Caribou and Walrus hunt.[2,3]

I was born during the height of a howling blizzard. This year's hunt was very poor, and famine was in the land: Sedna had not smiled upon us! The winter in Northern Alaska had been particularly severe this year and had driven all small game under cover. To make an expedition for large game was impossible. Ajukotog, as shaman and chief among his tribe, was particularly troubled because many of his people were starving. He had called upon the mighty spirit of the polar bear; the soul of the killer whale; but to no avail: the storm howled on in defiance! With his last ounce of will effort, he performed the most powerful and sacred ritual in his shamanistic repertoire. With a small sharp stone, he slashed his tongue repeatedly as he chanted with a growl and snarl the words, "Oh Spirit of the Great White Bear! Plead with the spirit of the storm to stop, that my people may be saved!" Keeping up a continuous chant for about an hour, exhausted, he dropped to the floor of his igloo.[4]

My father told me later that by the next morning, the storm had lifted, and he gave a small party of hunters small amulets in the shape of a killer whale (Fig. 1), to insure a successful hunt.



FIGURE I AMULET

Antler pendant representing a killer-whale. British Columbia. Height 2.2 inches; length 6.3 inches; British Museum. Free hand ink drawing from Adam, Leonhard; Primitive Art, Penquin Books, Baltimore 1954. Page 35.

Within seven days, the hunters returned loaded down with fresh meat. As a tribute of thanks, a great feast was held for Ajukotog, my father.

Wrapped in furs, I was brought by the midwife to my mother.[5,6] Being a new born son, she held me up to the assembled relatives. With simple ritual I was called Umigiukor or Blizzard, while an amulet made from animal teeth was attached to my neck to protect and strengthen me.

As a small boy, my life was difficult. I could not understand why our tent or igloo was separated from the rest of the people. Playmates were rare, and children and adults seemed to fear me. Because of this lack of companionship, I wandered alone across the great open spaces of the tundra, my head full of awesome dreams. I became very nervous and frequently had spells of loss of memory.[7] To help me, my father, Ajukotog spoke to me quietly about the great myths and cultures of our tribe,[8] as we huddled close together around the central hearth during the long winter nights. As Umigiukor, the son of the shaman, I was feared as well as respected.[9] I was considered sharp of mind and quickly learned the knowledge and mystical symbols of my people, but had not as yet begun the first test[10] necessary for the hereditary profession of angokok or shaman.

On reaching my tenth year, I began my first test. I was to expose myself alone in an isolated spot and fast for a period of three days. Gathering all of my boyish courage, I bravely started out on this first test. On the third day of my exposure, there appeared to me in a day dream or spell, (call it what you will) a great bird flying overhead, with entrails of a large animal in its beak.

Returning to my village, bruised, weary and especially hungry, I revealed to my father the strange experience. How the first night the air was pierced by howls of a wolf, but my small fire had kept the beast away; how the second night, it seemed the northern lights were lifting me up to heaven by their



FIGURE 2 MASK
Mask, representing the thunder-bird. Length 21 inches. Bilxula Indians, British Columbia. Museum f. Volkerkunde, Berlin. Free hand ink drawing, same source as Figure 1.

splendor. The story of the dream of the great bird interested my father the most, and he demanded to know all the details concerning the cries, the gestures, and the motions of the great fowl.[11] Being satisfied with my report, father explained that this great bird was my principal spirit helper and that I should practice mimicking these motions and cries as perfectly as possible.

When I was thirteen, my second test came. How I dreaded this! I pleaded with my father to let me stop this study rather than to take this test, but father as the shaman strongly refused. With a great deal of remorse, I wore the clothes of a woman, did the work of a woman, and lived the life of a woman for one year.[12] At the end of which time, father made me chief assistant shaman at the performance of the process of rain-making at the annual spring festival, a most important duty because it represented the rebirth of life. Fully attired in my newly-made outfit of simulated wings for arms and large bird-head mask (Fig. 2) to cover my head and face, I chanted the annual hymn to the Rain-God,[14] with the grand approval of father, Ajukotog.

In the fifteenth year of my life, I took the third test, the test of strength and valor. The day of the test arrived. Naked, except for my breech cloth, I presented myself at the main council chamber. While all the other members of the secret society were looking on, I ran through a hot-bed of glowing coals and with a sharp flint made a six inch incision across my abdomen.[15] As the chief assistant shaman, I could not show any signs of emotions or injury in any way. As a result of my successful test, I was given several new secrets necessary for my profession.

For the next several years, I performed all types of duties, especially those of assisting my father. I helped in the making of fetishes, amulets, and masks, with the proper ritual chanted during their construction. Into each of these queer objects we try to put a part of the vital part of nature, which we call soul or spirit, so that whoever possesses the mask, fetish or amulet will be protected by the Spirit that dwells within the object.[16]

Just as I was to enter fully into my profession, tragedy struck! My father, great man that he was, was killed while on a walrus hunt. As Umigiukor, I was ready to assume the full shaman attire

of sacred skins of albino animals, the chains of dried animals about my neck and body and the great eagle mask of a full shaman. (Fig. 3.)

I entered the village tall and straight as an arrow with one of the lesser shaman going before me swinging a bull-roarer[17] making a sound like a flight of a great bird; while another helper beat an interrupted sallow rhythm on the drum,[18] the sound awesome but deafening. As my clansmen trooped behind, I jumped repeatedly into the air, twisting and turning, the contortions and flapping of the arms representing the flight of my spirit helper. With this ritual, I lead the villagers in the funeral march of my father to the shaman grave of stones above the ground. (All other villagers were cremated.) After the funeral I assumed my duty as angokok and chief.

Soon after appropriating my new station in life, I became weak and moody; I felt some one had power over me. It seems other shamen were jealous of my power. Parska, the angokok of another clan, had taken an oath to the spirit of the sea, Sedna, to give him power over the spirit of the Great Bird; my great spirit helper. Because of this evil spell, I could not eat, my body seemed to waste away, my intellect benumbed. My people came to me for help and advice, but my strength had departed from me. What could I do? With heavy step I entered my tent, threw myself upon a pile of furs and entered in a deep sleep. After three days I awoke and ran to the main council lodge.

Once within its guarding walls, I furiously began to prepare for my great seance. To overcome this powerful influence of the spirit of the sea, I had to call upon all of my spirit helpers; the great bird, the white bear, the spirit of my father, etc. With extreme nervousness,[19] I prepared to send my soul to the depth of the ocean, to do battle with the spirit of the sea known as Sedna, the sea goddess.

Taking the drum within my hands, I beat first softly, then louder, faster and faster, howling and growling, also calling upon my spirit helpers, my assistants. My body writhed back and forth, my hands, feet, and body making ever larger circles within circles, mimicking the gyrations of a great bird. Out of the depths of the lodge, sounds of a great wind and foot steps were heard, also whistling and rushing water sounds rolled across the roof of the lodge. This was done by throwing my voice to the winds,[20] which I had practiced so hard as a young shaman. The group of men present were hardly visible, crouched together around the dark floor of the council chamber. These chosen ones were held in a state of ecstasy as they watched the contortions I was making as my soul battled in mortal combat the spirit of the sea. Finally, after an hour, I fell exhausted. The weird sounds of the battle continued for a few moments, then all was a desolate quiet. The sounds of human hearts and breathing was all that could be heard, but it reminded one of the charge of a group of galloping horsemen. Rising slowly and painfully from the ground, I gave a shrill cry, and cursed an oath upon Parska. With this symbolic act, I ran from the council lodge as a sign that my soul had triumphed.

Following this severe expression of my power, I entered into deep retirement, remaining in my tent for several weeks. Recovering from my nervous exhaustion, I again took my place as

FIGURE 3 SHAMAN IN CEREMONIAL CLOTHES

Medicine man of the Alaskan Ahtena Indians. He is wearing a wooden mask and an elaborately painted shamanistic robe. (After Bartels, Die Medicin der Woturvolker, Figure 21, page 68). Free hand ink drawing from Ciba Symposia, Vol. 4, No. 1, April 1942—Page 1213.





arbitrator in the council chamber. In due time I took unto myself a wife, and lived apart in a special house, (a tabooed house) where I presided over the annual hunting and migration of my tribe. Occasionally, I was called upon to rescue the soul of a fallen clansman. I would like to recall this difficult case for you; the case of a very sick man. It happened on the evening of the bear festival in the twilight month of September. Kangalik, one of my tribesmen, chief harpooner of the village, fell in his whale boat while on the last walrus hunt.[21] The herb shaman[22] had tried for more than a week to bring him out of lethargic state with concoctions of vegetable and animal material, also massage and sweating was tried, but to no avail.[23] Finally, I was called. When I first saw him, he was pale, breathing very slowly and softly; his relatives told me he grabbed at his head whenever he awoke. Gathering about me all the members of the hunting party, I began to question each member in turn to try to ascertain if any ritual was neglected or forgotten. Satisfied with their answers, I turned to the family. Soon it was evident that an important taboo had been broken. With a free confession of the fallen man's brother it came to light, that no fat had been thrown back in the sea when the last whale was slain. Retiring from the group, I drew myself up to my full stature and announced in a solemn tone, "Kangalik's soul is in bondage to Sedna!" I told the assembled relatives that the last whale harpooned was not properly treated;[24] that the taboo of preparing the soul of the whale for the sea had been broken. No fat had been thrown back into the sea, and so Sedna, the goddess of the sea, was angry. In order to heal this man, I must return his soul to his body. In order to do this, I must make a trip to the subterranean world by way of the tree of life.

The fallen one was taken into the center of the council chamber and placed upon a fur rug near the ceremonial fire. Assuming my special costume and mask, I began my seance with the help of my assistants. (Fig. 4.) First I made sure no strange ones were present sitting around the darkened lodge. By the entrance of the lodge, I took a long, deep drink of fermented liquid,[25] to aid me in my trip to the other world. All lights were extinguished and a deaf silence prevailed. From the depth of the lodge a gentle tapping was heard, which grew louder and louder. The drum began to beat an interrupted rhythm which seemed to float over the heads of the assembled relatives; sometimes

← FIGURE 4 SEANCE

This drawing is based on original research. The central figure in the picture is the patient; directly behind the patient is the chief shaman with his special drum. To the extreme left is an assistant beating on a deeper pitched drum. To the left, standing, is another assistant wearing a mask, swinging a bullroarer in the left hand and a native rattle in the right hand. To the right of the chief shaman is another assistant making noises on a crude pipe-like instrument. This whole performance is taking place in the main council chamber. The light is coming in through the smoke hole.

seeming to be just over the heads. Suddenly there was heard a shrill, piercing cry of the male walrus, then splashing of water, and the growl of the polar bear. These sounds seemed to come from different parts of the lodge; the drum continued with a deep thud periodically, which seemed to vibrate the very ground as if some great monster was in their presence. I continued to move rhythmically back and forth to the rhythm, giving grunts and growls; leaping in the air, swinging my arms wildly! After half an hour I began to talk in a garbled or twisted tongue, and strange answers were issuing from the corners of the lodge. Soon a faint humming sound was heard, then a chant was started by one of the women and it swelled into a great chorus, then finally all was quiet. With measured step, I approached the fallen one; kneeling beside him, I began to suck at his abdomen. Rising quickly, I spat upon the ground a sharp crystal. Holding this object in my hand I said, "This is the thing that has been troubling Kangalik, and his soul has returned to his body!" Through sheer will power, the fallen one arose from the rug and walked from the lodge with his relatives trooping after him. The next day I made my usual call and finding Kangalik in fine vigorous shape, I collected my fee,[26] a fee commensurate with the importance of the chief harpooner.

This story of mine, while entirely of my own imagination, has sound basis in fact. I will try to give an explanation of each section, with an authoritative text to support the context of the story.

Fear of the unknown has been the greatest threat to man's intelligence, since man as such has raised himself from the brute. There are several ways of dealing with fear. You can hide from it, run from it, or face up to it. Shamanism is one method of facing up to fear in the long pre-history of mankind.

Allow your imaginative mind to drift back to that dim lit past when every sound had a meaning; every movement had a soul. (Could your civilized mind come up with a reasonable answer?) If the human race was to survive, an answer must be found. Primitive man found an answer. Everything that moved was alive and had to be respected; whether animate or inanimate, every sound must represent movement, thus every sound was also alive, and must have a soul, and be respected as such. This is the basic solution known as animism, out of which grew fetishism and shamanism.

As examples: all primitive societies had gods for thunder and lightning; gods of the whispering trees; gods for the babbling brooks and the roar of the ocean. Such phenomena as the shadow, reflections of quiet pools, etc., must be explained. The sight of persons in dreams and deliriums had to be explained. How? Easily; by stating that man had several souls which could leave and enter the body at will, making it possible for man to be in more than one place at a time.

Why did a man become sick, who only a short time ago had killed a mastadon? Someone must have put a curse on him and stolen his soul. His soul had been defeated by the soul of the mastadon because he did not properly address the soul of the mastadon.

What is death? What happens when you kill another man? The soul of the slain man becomes your slave and will forever do your bidding. The soul of the beloved ancestor must be prayed

for, provided for, lest he return to haunt the village.

Examples of head hunting, and head trophies are built upon the idea that the soul of the slain person is trapped in the head and will be the owner's slave. Scalping is the same idea.

Ideas of magic are based upon the same theory. The law of contagion states that the soul of the owners of articles is transferred to all articles with which he comes in contact, and it may be influenced by persons owning the article. The law of similarity, things which are similar, have an affect upon one another. These two laws were used by the shaman or medicine man for both good and evil.

I believe that shamanism should be considered as a nucleus of theoretical philosophy.[27] The reason for this statement is that all great religions were built upon fear, such as Buddhism, Hinduism, Zoroastrianism and Mohammedanism. The only major religion not directly built upon fear is Christianity. This takes the position that God is love, and hence God is a forgiving God, not a revengeful God.

Naturally the beginning of the practice of medicine can be but an intelligent guess, but a guess based upon imagination, nurtured by scientific investigation in the fields of paleontology and anthropology. The story which has been unfolded for you is based entirely upon this background. The study of this myth will give you but a glimpse into the infinite depth of the human mind. For buried deep in our intellect is a tremendous reservoir of man's evolutionary intellectual growth.

Notice in reading the presentation of this story, the presence of the artist, the law-giver, the priest, the physician, the leader. Each comes into his own to take his place in the cultural heritage of man. As you can see from the little story, medicine today is fundamentally the same as that practiced ten thousand years ago. The physician must gain the faith and trust of his people. He must carry out to the best of his ability a close study of the history of the case, ascertain the difficulty involved, and try to correct the abnormality present by his normal medical armamentarium and for his effort he is paid a fee presumably commensurate with his ability.

Certainly there was no effort at a physical examination, because man had no concept of disease being caused by altered physiology. All was due either to the loss of a soul or the stealing of the soul because of a breaking of an important taboo.

Discussion

Great personal effort must have been necessary for a man of superior intellect born into a society of primitive culture because it is only natural for such a society to resist change. Yet, we know changes and improvements did take place: obviously the shaman or medicine man must have advanced the change or encouraged it.

The resistance to change is still with us. Much of the psychology of the shaman is still used by the quack, and the pseudo-physicians upon the general public which is still looking for miracles. The modern psychologist and psychiatrist use many of the techniques developed tens of thouands of years ago by the most intelligent man of the tribe called the shaman.

The beginnings of the profession of medical doctor is veiled in a cloak of darkness called time. But, by careful search, small rays of light show that man with his reasoning power had his shaman even among the extinct race of man known as the Cro-magnon. Because of the length of the existence of this institution of shamanism,[28] it is my opinion that it represents the closest approach we have to the beginnings of medicine, such as it is known today.

Bibliography

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2. Murdock, George P., Ph.D.: Our Primitive Contemporaries, The MacMillan Co., New York 1934, Page 216.

"This is explained by the fact that their struggle for existence is directed not against hostile tribes competing for the same hunting grounds, but exclusively against nature and the misfortunes arising from the forces of nature."

3. Ibid (1) Page 598.

"If the hunting was bad it was assumed that a taboo had been violated. Spiritualistic seances, in which the angokoks called upon the spirits, were held during the long winter nights and days."

"The main deity was a goddess called Sedna, who lived at the bottom of the sea. She controlled the sea mammals and the game, and if displeased, withheld the animals so that hunting was poor."

4. Corlett, William T., M.D.: The Medicine Man of the American Indian, Charles C. Thomas, 1935, Springfield, Illinois, Page 89.

"Real and fictitious wounds were self inflicted to impress the tribesman."

5. Ibid (2). Page 210.

"No special ceremony attends childbirth. The mother leaves the family dwelling shortly before the event, and retires to a special tent in summer or snow house in winter, returning as soon as the infant is born."

6. Graham, Harvey: Eternal Eve, Doubleday & Co., Inc., Garden City, New York 1951, Page 10.

"Abnormal births were due to demons and where the demons were exceptionally powerful, the midwives might reluctantly be compelled to call in the shaman. The belief on which the shaman worked was quite simple and was shared by most primitive peoples. Labor was supposed to be voluntary acts on the part of the child who was anxious to escape from its confined quarters. If the child was slow, then it would be coaxed by the promise of food. If that failed it was threatened with dire penalties."

7. Bogoras, Waldemar: "First Symptoms of a Shamanistic Calling," Primitive Heritage, Editors, Margaret Mead & Nicholas Calas, Random House, New York 1953, Page 398.

"Nervous and highly excitable temperaments are most susceptible to the shamanistic call." Many examples could be quoted.

8. The Catholic Encyclopedia: 19 Vol. New York, Robert Appleton Co. 1912, Editor, Charles G. Herbermann, Vol. 13, Page 750.

"In the practice of his art the Shaman is regarded as: (b) Educator, ie., keeper of the myths and traditions, of the art of writing and divination; he is the repository of the tribal wisdom."

9. Frazer, Sir James G.: The Golden Bough: 1 Vol. Abridged edition, The MacMillan Co., New York 1944, Page 88.

"In all tribes, their doctors are conjurers—are magicians—are sooth-sayers, and I would say high-priests; in as much as they superintended and conducted all their religious ceremonies: they are looked upon by all as oracles of the nation. In the absence of any definite system of government, the word of a shaman has great weight; as a class they are regarded with awe, and as a rule are obeyed much more than the chief."

10. Ibid (8). Page 750.

"To become a shaman, one must pass through several degrees of initiation; in most cases, to be a full shaman you must pass four stages. This gives the shaman power to heal disease, prophesy, to prolong life, make fetishes, and to aid others in attaining desires not to be realized in any other way."

11. Ibid (9). Page 700.

"In these ceremonies the essence of the rite appears to be the killing of the novice in his character of a man and his restoration to life in the form of the animal which is thenceforward to be, if not his guardian spirit, at least linked to him in a peculiarly intimate re-

fation. . . . Thus establishing a sympathetic relation with an animal, a spirit, or other mighty being, with whom a man deposits for safe-keeping his soul or some part of it, and from whom he receives in return a gift of magical powers."

12. Bogoras, Waldemar: "The Invert as Shaman", Primitive Heritage, Editors, Margaret Mead & Nicholas Calas, Random House, New York 1953, Page 428.

"Transformation takes place by the command of the ke'let, usually at that critical age of early youth when shamanistic inspiration first manifests itself. It is, however, much dreaded by the youthful adepts, and in most of those cases in which I spoke of the young shamans preferring death to obedience to the call of the "spirits", there was connected with the call a reference to change of the sex. There are, however, various degrees of transformation of this kind."

"In the first stage, the person subjected to it personates the woman only in the manner of braiding and arranging the hair on the head. The second stage is marked by the adoption of female dress, which is also practiced either for shamanistic or for medico-magical purposes. It does not imply complete change of sex. . . . (The third stage implies a more complete transformation whereby he gives up manners and pursuits of men.) Generally speaking, he becomes a woman with the appearance of a man."

13. Ciba Symposia, Shamans and Medicine Men: Spencer L. Rogers, Page 1206.

"The professional dress and the equipment of the shaman may be very meager or very ornate." Most of the shamans in the polar region wear elaborately carved wooden masks, and painted shamanistic robes with numerous chains of dried animals hanging from the robe and neck.

14. It rains very infrequently and a good pour of rain is a sign of returning life or arctic summer.

15. Carpenter, Edward: The Intermediate Type as Prophet or Priest, The Making of Man, Edited by V. F. Calverton, The Modern Library, New York 1948, Page 621.

"Discipline by abstinence and prolonged vigils, by hardships, and constraint, he must learn to endure pain stoically and to subdue his bodily desires, to make the body obey unmurmuringly the commands of the spirit. Others may be chatterers; he will be silent, as becomes the prophet and sooth-sayer."

"Suffering self-inflicted torture", is very powerful medicine.

16. The mask, and amulet are forms of fetishes. Julius Lippert (Kulturgeschichte der Menschheit, II 364, Stuttgart, 1887). Properly speaking, a fetish is any thing, inanimate or animate, in which an alien spirit resides; it is an object worshipped or treasured, not for itself or even for any vague or mystical power associated with it, but solely by virtue of its "possession" by a definite spiritual being.

17. Bull-roarer or rhombus. An instrument used to produce a whirring sound during ceremonials. A shamanistic implement widely employed. This wooden slab, which is whirled at the end of a cord, produces a mysterious sound which is thought to be similar to the sound of the wind and rain.

18. Bogoras, Waldemar: "Training of Shaman," Primitive Heritage, Editors, Margaret Mead & Nicolas Calas, Random House, New York 1953, Page 407.

"The beating of the drum, notwithstanding its seeming simplicity, requires some skill, and the novice must spend considerable time before he can acquire the desired degree of perfection. This has reference especially to the power of endurance of the performer."

19. Ibid (18). Page 405.

"The process of gathering inspiration is so painful to young shamans, because of their mental struggle against the call, that they are sometimes said to sweat blood on the forehead and the temples. Afterwards, every preparation of a shaman for a performance is considered a sort of repetition of the initiative process; hence, it is said that the Chuckchee shamans during that time are easily susceptible to hemorrhage and even to bloody sweats."

19. Lantis, Margaret: The Religion of the Eskimos. In Forgotten Religions, Editor, Vergilius Ferm, The Philosophical Library, New York 1950, Page 318.

20. Ventriloquism, like slight of hand, drum beating etc., has to be learned by long periods of practice.

Ibid (7). Page 399.

"When coming at the call of the shaman, they sniff and snort, and finally, after some short exercise of the drum, flee back to the freedom of the wilderness. All this is brought about by ventriloquism. Even the ke'let of diseases,

especially those who cannot harm man much; as for instance, rheum or cold, are described as very "fleeting". Thus, in tale, the rheum, before mustering sufficient courage to enter a human habitation, makes several attempts, and each time goes back overcome by its shyness."

21. Weyer, Edward Jr. and Harrington, Richard: Walrus Hunt, Natural History, January 1956, Pages 28 to 32.

22. Ibid (8). Page 750.

"The shaman having went through part of the initiation usually is a specialist, i.e., rain making, finding game, healing disease."

23. Ibid (13). Page 1191.

"The use of herbs and other phases of empirical medicine as known and practiced by primitive peoples is a fascinating study, but tells us little about the attitude of these peoples toward the cause of disease."

24. Ibid (9). Page 520.

(The savage must eat animals to live.) "Even in the act of killing them he testifies his respect for them, endeavors to excuse or even conceal his share in procuring their death, and promises that their remains will be honorably treated. By thus robbing death of its terrors, he hopes to reconcile his victims to their fate and to induce their fellows to come and be killed also."

25. Eliade, Mircea: "Shamanism" In Forgotten Religion, Editor, Vergilius Ferm, The Philosophical Library, New York 1950, Page 301.

26. Ibid (4). Page 90.

27. Garrison, Fielding, H. M. D. History of Medicine, W. B. Saunders Co., Philadelphia & London 1929, Page 22.

"Shamanism—an intermediate stage between polytheism (pantheism) and monotheism — which apparently assumes a "Great Spirit" with lesser divinities and demons subordinated. With the beginnings of shamanism we have everywhere the advent of the medicine man, the bilbo or witch doctor, who assumes a solemn supervisory relation to disease and its care, not unlike that of the priest to religion. . . . To prevent future attacks, in other words, to keep the demon away for the future, he provides his patient with a special fetish or amulet to be worn or carried about his person."

28. Gordon, Benjamin Lee, M.D.: Medicine Throughout Antiquity, F. A. Davis Co., Philadelphia 1949, Page 124.

"The similarity of the proceedings of the Siberian shaman, the North American medicine man, and the African "doctor" constitutes important evidence that at a remote prehistoric time, the ancestors of the present aborigines of the various parts of the world inhabitated a common home where they cultivated a common tradition; and when separated by a series of migrations, they carried along with them their old customs and practices."

"The main difference in the performance between the Siberian shaman and the North American medicine man is that the former uses a magic drum, the latter a magic rattle. Both wear fantastically decorated cloaks."

204 Schoolhouse Lane

New Method for Detection of Poliomyelitis and Other Antiviral Antibodies in Human Sera

"It is clear that three injections of Salk vaccine do not immunize all children to poliomyelitis. Furthermore, a fall in antibody titer occurs in an appreciable percentage of vaccinated children with passage of time, so that booster injections are required. It is suggested that the method described here may be a valuable screening test for distinguishing immune from nonimmune persons in a polio vaccination program which aims at complete protection."

Horace L. Hodes, Helen D. Zepp,
Walter L. Henley and Ruth Berger
A.M.A. Journal of Diseases of Children, Vol. 94, No. 5, p. 493

THOMAS T. JONES, M.D.
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The Serendipity of "The Last Drop"

There is a suggestion that I would like to make, yet for the life of me, I don't see how it can be reported in a medical journal. It lends itself to no technical pattern, yet it is a procedure which should be taught all males from the age of toilet training upwards. In fact, it would be a real blessing, and not a disguised one, if males of all ages would be alerted to the possibilities thus revealed. For who knows how many a male has been embarrassed by the occurrence of the moist patch on the pants after the act of voiding had presumably been completed? Who knows how many a housewife has had to patch the rotted-out zone of the shorts where the inevitable "last drop" was blotted up? How many a "full bladder" waited until on the way home, lest the owner be chagrined by a tell-tale stain on impeccable linens?

It is repeated, that this should be taught, emphasized, reiterated and demonstrated by male parent to male offspring, or by practitioner to patient, to the end that a coup de grâce be given that timeless adage, "No matter how hard you try, the last drop escapes on the pant-leg."

Simple, unobtrusive, yet effective, the technique is as follows: as soon as the last spasm and pucker of voiding is done, place the middle finger of the free hand firmly up against the perineum, just back of the scrotum, and press with determination. Then, one simple stroke downward of the urethra, a shake, and the empty organ is ready to be returned to its proper place, dry and harmless. That's all there is—the technique needs no more description. It is a revelation to recall that as the male stands, the bulbous urethra is a horizontal lake, and it is this reservoir which is emptied by this maneuver. A few tries, and even the most awkward becomes adept. The owner is dry, and happy; the washerwoman is spared an indignity, and there is less mending to do. I wish I had known this forty years ago.

604 West Chapel Hill Street

Clinico-Pathological Conference

Yale-New Haven Medical Center

A 63-year-old white female, ill for several years with joint and respiratory symptoms, was admitted to the hospital on April 27, 1957.*

PAST HISTORY. Appendectomy; cholecystectomy for cholecystitis and cholelithiasis.

PRESENT ILLNESS. This probably started in 1952 when she was admitted to the hospital because of pain and limitation of motion in the right arm of approximately four months' duration. X-ray examination showed an osteoid osteoma involving the proximal end of the right humerus. She was placed on cortisone and phenobarbital and discharged four days after admission. The pain in the right shoulder continued and localized in the deltoid insertion. It radiated down the arm and was present constantly. It was aggravated by motion.

An "osteoid osteoma" was not definitely found by the surgeon, however, during a January 1953, admission when he removed approximately 3 ccm. of bone fragments from the region of the deltoid insertion. The material was interpreted as osteoid osteoma by the pathologist, however. During this admission, the patient complained of long-standing soreness of the second toe on the right foot, and x-ray examination of the terminal phalanx showed an "erosion of this structure."

On September 3, 1953 she was readmitted to the hospital for a stay of 3½ weeks. Her chief complaint was pain in the chest, marked hoarseness and difficulty in swallowing of at least six weeks' duration, associated with increasing weakness and consequent inability to do her house work. A hacking cough occurred in spasms, both night and day. She also complained of night sweats. Her ears had become swollen and painful.

Examination showed an irregular swelling of the ear lobes with partial

* The editors gratefully acknowledge the cooperation of Dr. Rolf E. Katzenstein, Director of Laboratory, Meriden Hospital, Meriden, Conn., for the material presented in this month's conference.

disappearance of their regular contours. The swelling had partly obstructed the external meati. There was some erythema and edema of both legs.

X-ray examination of the chest failed to reveal an abnormality of the thorax, the pleura, the diaphragm or great vessels, nor did the barium swallow reveal any change in the esophagus.

While in the hospital, the patient noted stiffness in both legs. Treatment with cortisone and sedation resulted in improvement. After her discharge, she continued to take four tablets of cortisone daily. In spite of this, her ankles became swollen and she experienced severe back pain. The night sweats continued.

During her next admission in November 1953, a systolic murmur was noted in the mitral area and the right chest appeared to be more prominent than the left. However, expansion of the chest was good. The pinnae of the ears now were diffusely red and thickened. There was limitation of motion of the right knee due to pain. There was pain on dorsiflexion of the right ankle and slight "rheumatoid deformity" of the fingers. No contractures were noted. For the 3½ week stay she had daily temperature rises of 101° or 102° which subsided to 100° upon treatment with ACTH. She suffered from a "sore throat" from which at one time beta hemolytic strep was recovered.

Repeated blood cultures were negative; so were the routine agglutinations. No LE cells were found on repeated attempts. Muscle biopsy failed to reveal any lesions.

In spite of the therapy, there was an obvious swelling of her wrist joints. The hacking cough returned and this time it was associated with both inspiratory and expiratory wheezing. Joint pains were eased six days after commencement of ACTH therapy, and two days before discharge, ACTH was discontinued and cortisone was started.

Cartilage Change Cough, sputum, and fever of four days' duration were her chief complaints upon admission in February of 1954. The chronic cough had continued since her last admission. Again, the swelling and deformity of both ear lobes was noted. A peculiar overgrowth of the skin of the pinnae was seen that closed off the external auditory meati. When these overgrown areas were drawn apart, the patient could hear perfectly. The ear drums were intact.

In addition to the ear changes, the dorsum of her nose now had become flattened and the nasal bridge was low with a distinct depression of the cartilage. The finger joints were stiff and the middle knuckles were swollen. There was marked swelling of both knees and ankles with flexion deformity of the left leg.

Under daily doses of cortisone, the patient's condition improved.

A biopsy of the right ear was performed.

Her hacking cough and dyspnea required repeated admission to the hospital. The swelling of the knees, ankles and finger joints persisted. In February 1955, a frank saddle nose and flat ears, painful to palpation, were recorded. The hoarseness was far advanced at that time and examination of the larynx showed deformity with thickened cartilage and irregularity and nodularity in the arytenoid areas. The glottis was described as narrow.

In October 1955 the joint swelling had become worse; so had the constant barking cough. Wheezing was noted

over both lungs, more on expiration than inspiration.

X-ray examination during this admission showed degenerative changes of the trachea resulting in marked narrowing of the lumen of this structure and of the larger bronchi. No abnormality was noted in the sternoclavicular joints. Osteoporosis was noted in the knees, feet and hands. X-rays of the esophagus were normal.

Her respiratory difficulties necessitated an oxygen tent. After a few weeks' treatment with ACTH, potassium iodine, Feosol and penicillin, she was discharged.

During a subsequent hospital admission, her respiratory difficulties, inspiratory and expiratory wheezing, hacking cough, were the most prominent findings and subsided upon ACTH treatment.

Final Admission Her last admission to the hospital took place on April 27, 1956. She stayed until the time of her death which occurred on June 30, 1957. Her chief complaint again was shortness of breath and hoarseness.

PHYSICAL EXAMINATION. Blood pressure 120/89, pulse 80, respiration 24, temperature 98.8.

There was considerable deformity of both ears with diffuse swelling and loss of contour with narrowing of the external meati. There was pronounced saddle nose. There was extreme hoarseness of her voice and the extremities showed evidence of "chronic arthritis" with deformity.

During the more than one year's hospital stay her joint complaints varied according to the administration of ACTH and Meticorten. Her respiratory complaints also continued with periods of severe dyspnea and a deep barking cough, alternating with periods of relative well being and reduction in respiratory symptoms.

The medications she received included ACTH, potassium iodide, Alevaire, Neocortef ointment, penicillin, digitalis, Tedral, Pyribenzamine, Cedilanid, ACTH-gel, Hycodan and ACTH zinc, and Penstrep. She became gradually weaker and quietly expired on June 30, 1957.

X-ray Findings 1/8/53. Examination of the right foot shows absence of terminal tuft of the distal phalanx of the second digit with flattening of the remaining portion of the distal phalanx on its lateral aspect, suggesting the possibility of a glomus tumor. Examination is otherwise negative.

9/4/53. Conclusion: Normal esophagus. Normal chest.

11/11/53. Examination of both wrists reveals no abnormal bony changes and no evidence of arthritis. Examination of both knees reveals minimal hypertrophic osteoarthritis of both patellae. There are no other bony changes noted. Examination of both ankles reveals minimal hypertrophic osteoarthritis of both ankles. and in both os calces.

4/14/54. Examination of the chest reveals no abnormality of the bony thorax, pleura or diaphragm. There is a plaque atelectasis in the right lower lung field and a strand of atelectasis at the left base in the lateral zone. The plaque of atelectasis at the left base may possibly be due to a healing pulmonary infarct.

4/21/54. Re-examination of the chest shows complete clearing of the plaque of atelectasis at the left base. The left lung field is clear. The strand of atelectasis at the right base also shows

Laboratory Data

HEMATOLOGY	HGB.	RBC	WBC	NEUT	STABS	EOS	MYEL	LYMPH	MONOS	META MYEL	MON EL	BASOPHILS
11/24/52	12.2		6700	59	6	3		32		1		
1/5/53		3.49	6500	70	2			27	1	1		
9/17/53	10.0	3.26	7200	69	3	3		23	2			
11/17/53	11.0	3.63	8600	66	3	2		27				
2/24/54	11.3	3.72	11800	67	2	1		30				
5/11/54	11.1	3.51	13400	68	7			25				
2/24/55	9.9	3.31	10700	69	3	1		27	5			
11/1/55	12.1		9150	69	4			22	6			1
1/24/56	10.7	3.27	9600	45	—	—	—	48	4			
4/28/56	14.1		9800	63	1	1		31			3	1
4/22/57	9.6		8850	67	1	5		23				

SED RATE	15 MIN.	30 MIN.	45 MIN.	1 HR.
9/17/53	22.5	28	29	30 mm
11/17/53	0.5	2.5	4	6 mm
2/23/54	8	19.5	25	26.5 mm
1/9/56	3	20	22.5	23 mm
8/9/56	10	24.5	26	26.5 mm

BLOOD CHEM	SUGAR	NPN	SODIUM	CHLORIDES	CO,	URIC ACID	POTASSIUM
11/11/53	82	33	143.6	98			
2/12/54	96	31		104	66		
2/16/54						1.15	
5/6/54			147	102			4.31
2/23/55	98	30	144.5	102			4.1
11/1/55			141				4.4
4/28/56	86	34	139	97			4.42
6/26/57			133				4.12

BLOOD CULTURE

11/13/53 No growth on blood agar plate (aerobic) in 3 days
No growth on aerobic broth
No growth on anaerobic broth
No growth on blood agar plate anaerobic CO_2

SEROLOGIC TESTS FOR SYPHILLIS:

negative.

MISCELLANEOUS

2/11/55 C-reactive protein—positive 2+.
2/11/55 Test for LE cells—no LE cells found. 10/17/55: same.
2/11/55 Antistreptolysin titer—less than 50 units. 10/11/55: same.

a partial clearing. The remaining lung fields are clear.

4/30/54. Re-examination of the chest shows complete clearing of the strands of atelectasis at the right base. There has been further clearing of the small patch of atelectasis at the left base. The remaining lung fields are clear. There has been a considerable improvement in the appearance of the lung fields since the last examination of 4/21/54.

2/12/55 Metastatic series—examination of the chest reveals no abnormality XXXX. Examination of both knees shows a moderate demineralization of the bones of both knees. Examination of the nasal bones reveals no abnormality. There are no abnormalities noted in any of the nasal cartilages. Examination of the cervical spine (L. view) reveals no abnormalities except minimal osteoarthritis of the lower half of the cervical spine. Examination of both hands reveals an advanced osteoporosis of the bones of the hands with pseudocystic degeneration noted in some of the phalanges and carpal bones. Examination of both feet reveals a moderately advanced osteoporosis of all of the bones of the feet. Examination of both auricles reveals calcification in the cartilage of the left ear.

10/10/55. Examination of the sternoclavicular joints and sternum shows no abnormality. Examination of the knees, feet and hands by means of survey films shows marked osteoporosis throughout the region examined. There is no definite evidence of cartilage absorption involving the joints. The examination is otherwise negative.

10/12/55. Barium swallow—conclusion: normal esophagus.

5/20/57. Conclusion: No evidence of active disease in the chest.

Discussion

Discussion by Dr. Gerald Klatskin, Professor of Medicine, Yale University School of Medicine and Associate Physician, Grace-New Haven Community Hospital.

This patient succumbed to a five year illness characterized by a) constitutional symptoms of weight loss, fever, sweats and weakness, b) a severe disabling arthritis, c) progressive hoarseness, cough and dyspnea, and d) destructive lesions involving the cartilages of the ears, nose, larynx and bronchi.

The distribution of the joint involvement, the deformity of the fingers and the accompanying osteoporosis suggest the possibility of rheumatoid arthritis. However, the absence of typical narrowing of the joint spaces in the face of progressive disability over a five year period makes it unlikely that rheumatoid arthritis was the underlying disease in this case or a complication thereof.

Respiratory Findings Cough and dyspnea were outstanding syymptoms from the very beginning, and respiratory failure was the ultimate cause of death. The barking character of the cough, the associated wheezing and dyspnea, the absence of pulmonary findings, other than disc atelectasis on one occasion, the relative paucity of sputum and the subsequent demonstration of narrowing of the larynx, trachea and bronchi suggest that the respiratory symptoms were due to obstruction of the major airways rather than to pulmonary or cardiac disease.

By far the most striking and unusual feature in this case was the widespread destruction of cartilage which resulted in distortion of the ears, the development of a saddle nose and deformity and

narrowing of the larynx, trachea and bronchi.

In addition, similar involvement of the costal cartilages may have been responsible for the otherwise unexplained chest pain noted in the history. Conceivably the joint cartilages too were involved despite the absence of confirmatory radiographic evidence.

Of particular note is the fact that no mention is made in the protocol of mucosal ulceration in the nose or larynx, or of nasal discharge, mucosal bleeding or significant sputum.

This suggests that the destruction of cartilage was not secondary to disease of the mucous membranes, and thus tends to rule out a number of granulomatous diseases that affect the respiratory tract cartilages, such as tuberculosis, syphilis, midline lethal granuloma, and Wegner's granuloma.

Supporting Evidence Further evidence in support of this conculsion includes:

- The involvement of the auricular cartilages which is not known to occur in any of these diseases.
- The presence of a chronic rheumatoid-like arthritis and the absence of pulmonary lesions in the case of tuberculosis.
- The severity of the constitutional symptoms, the fatal outcome, the presence of arthritis and the negative serology in the case of syphilis.
- The absence of destructive lesions involving the face in the case of midline lethal granuloma.
- The relatively long course and the absence of renal or pulmonary findings in the case of Wegner's granulomatosis.

Collagen Disease The prolonged fever and arthritis raise the question of whether or not the cartilaginous changes could have been secondary to one of the generalized collagen diseases involving either the perichondrium or its blood vessels. This appears unlikely, but is worthy of consideration.

The chest pain, cough, edema, the mitral systolic murmur and the skin changes over the ears suggest the possibility of disseminated lupus erythematosus, but the negative LE tests and the absence of renal or serosal involvement would appear to rule it out.

Scleroderma comes to mind because of the dysphagia, the history of a painful toe that was accompained by the loss of the tuft of its distal phalanx, the swelling followed by flattening and calcification of the ears and the occurrence of contractures.

However, no sclerodermatous changes were observed in the esophagus radiologically; no mention is made of thickening or induration of the skin, except over the ears; the calcification was localized in the cartilage and not in the subcutaneous tissues of the ear, and finally, the severe constitutional symptoms and fatal outcome are not consistent with this diagnosis.

Dermatomyositis is suggested by the muscular stiffness, weakness and contractures, the difficulty in swallowing and the erythema and edema involving the legs and the ears, but would appear to be adequately excluded by the absence of muscle induration and the negative muscle biopsy.

Periarteritis nodosa could conceivably have produced some of the manifestations seen in this patient, but the absence of hypertension, evidence of renal involvement, abdominal pain, or neuropathy rule it out.

Cartilage Affected By exclusion we are forced to conclude that the un-



In this profile view, note the saddle nose and deformity of the ears.

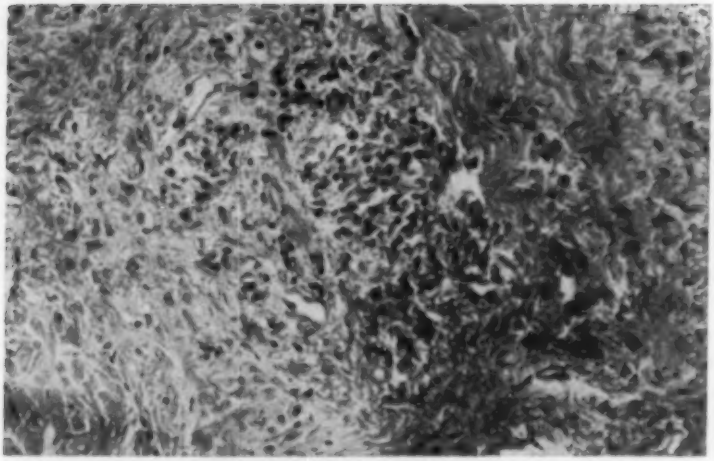
derlying disease, whatever its nature affected the cartilages of the body directly.

Ochronosis, one of the diseases known to do so, can be eliminated from consideration for a number of reasons:

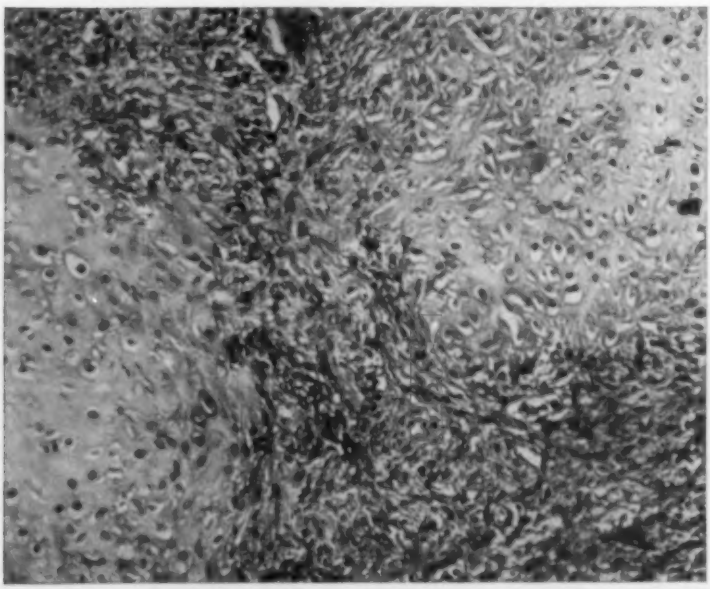
- While the deposition of pigment in the joint cartilages results in their degeneration and destruction leading to a characteristic type of arthritis, the deposition of pigment in the other cartilages of the body has no destructive effect.
- The disease is unattended by the severe constitutional symptoms noted in this patient.
- There is no mention in the protocol of the urine containing any unusual pigment or reducing substance to suggest the presence of homogentisic acid.
- The photographs of the patient show no unusual pigmentation of the ears or nose.
- The x-rays of the spine do not show the characteristic narrowing and calcification of the intervertebral discs seen in ochronosis.

Rare Entity Finally, we come to the one disease of cartilage that can best explain all the clinical features in this case, a rare entity first described in 1936 by von Meyenburg and Altherr as generalized chondromalacia. To the best of my knowledge only four other cases have been reported since then.

Clinically the disease is characterized by a rheumatoid-like arthritis, evidence of progressive softening and destruction of the cartilages of the nose, ears, larynx, trachea, bronchi, ribs and joints, and constitutional symptoms. Respiratory difficulty due to laryngeal involvement has been particulary severe in all cases,



Acute inflammatory reaction associated with necrosis of cartilage.



Invasion of previously destroyed cartilage by granulation tissue.

necessitating tracheotomy in at least four.

Saddle nose has been a regular finding, and in most cases the ears have been deformed.

As in the present case, the arthritis has usually been associated with marked osteoporosis and normal joint spaces. However, in a few instances the radiological signs have been characteristic of rheumatoid arthritis. In one instance calcification of the ears proved to be due to new bone formation. One feature seen rather frequently, that was not present in the case under discussion, is iridocyclitis and episcleritis.

Gross examination at autopsy reveals destruction, softening, thickening and deformity of all the cartilages with narrowing of airways, loss of nasal cartilages, depression of sternum due to collapse of the costal cartilages.

Histologically the cartilage shows:

- Loss of glycoprotein in its ground substance revealing the underlying reticulum fibers.
- Early invasion of highly vascular connective tissue.
- The latter appearance of an inflammatory reaction and fibrosis involving both the cartilage and its perichondrium.
- Necrosis and degeneration of the cartilage and its chondrocytes.
- Islands of new cartilage and bone formation.

Nothing is known about the etiology of this disease, but there can be little doubt that it represents a distinct clinical and pathological entity unrelated to any previously described rheumatic state or disorder of cartilage.

FINAL DIAGNOSIS. Generalized chondromalacia (von Meyenburg's disease) with involvement of the cartilages of the ears, nose, larynx, trachea, bronchi, and probably the joints and ribs. Death was due to progressive respiratory failure secondary to obstruction of the trachea, larynx and bronchi.

Pathology

Discussion of the pathological findings by Dr. Rolf E. Katzenstein, Associate Clinical Professor of Pathology, Yale University, School of Medicine and Director of Laboratory, Meriden Hospital, Meriden, Connecticut.

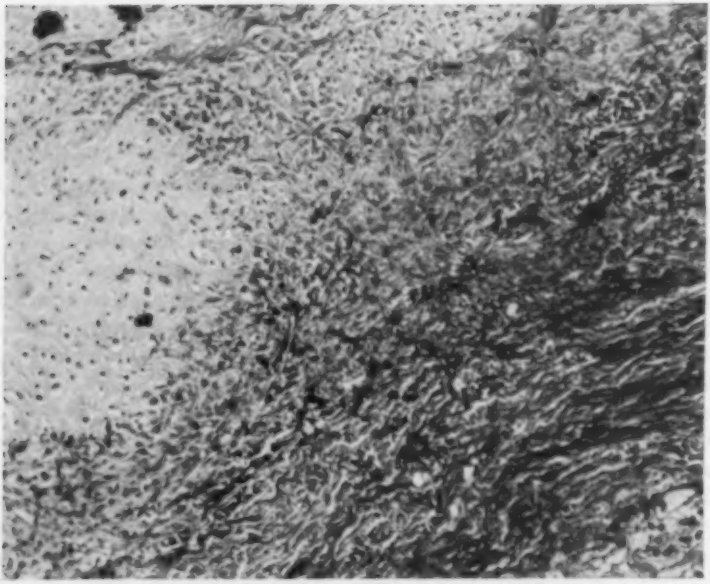
Dr. Klatskin has correctly classified this patient's illness as "systemic chondromalacia." The clinical course and autopsy findings coincide with those found in the previously described four cases. *(See Ref.)*

The first slides you will see are illustrations of the ear and the nose which show the typical "cauliflower" appearance of the ears and the "saddle" appearance of the nose.

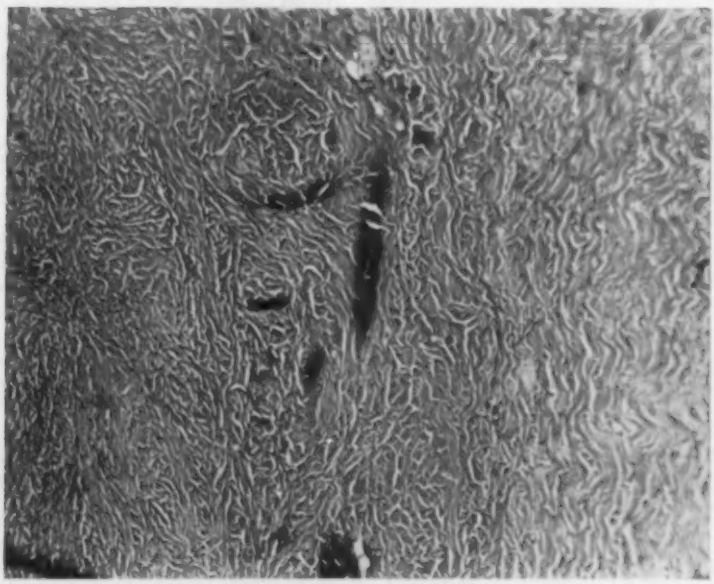
The next slides illustrate the essential microscopic pathology as it was found on the biopsy of the ear: Destruction of cartilage with extensive chronic inflammatory and partly granulomatous reaction. A marked amount of granulation tissue has replaced the destroyed cartilage. This represents the acute or recurring acute and organizing phase of the disease.

Important Findings The important gross autopsy findings were essentially those in the small joints, the respiratory system, and the ears. There was most severe "arthritic" deformity of the small joints of the hands and feet with marked edema around these structures, and caving in of the sternum at the sternoclavicular joints. No examination of the small joints was performed.

The thorax was barrel-shaped and



Replacement of cartilage by granulation tissue and scar tissue.



Scar tissue replacing cartilage.

the lungs emphysematous. The larynx showed diffuse edema and deformity with narrowing of its lumen. The trachea had been changed into a flabby tube that was partly collapsed and its lumen was reduced to an estimated half of its diameter. Its wall showed considerable thickening and the cartilaginous rings of these structures could not be felt or seen grossly.

The same change had involved the main bronchi to both lungs as well as the bronchi of the second order. Both lungs showed a considerable amount of diffuse emphysema. The smallest bronchi and bronchioli were occluded by a muco-purulent exudate.

Microscopic Examination The microscopic examination of the larynx, trachea, bronchi and bronchioli showed the final state of the acute changes seen in the biopsy. Thus, cartilage had been completely or partly replaced by thick layers of hyalinized connective tissue which, in the trachea, had resulted in its complete disappearance. In the bronchial walls, only part of the cartilage had been replaced by scar tissue and there were occasional foci where obviously regenerated newly formed cartilage was noted.

In addition, inflammatory lesions accompanying necrosis of cartilage were noted of the same nature as seen in the biopsy. This finding confirms Harder & Krauspe's statements that we are dealing with a recurring acute attack of necrosis of cartilage. The acute state is followed by granulation and scar tissue formation. The end result is a softening of the tracheo-bronchial wall and narrowing of the lumina of these structures, which in turn produces a marked degree of emphysema. The immediate cause of death was an acute necrotizing bronchiolitis.

An additional finding was the presence of sarcoid reaction in both lungs and lymph nodes in which no tubercle bacilli were demonstrable.

Discussion References

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Pathology References

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2. Gordon, E. J., Perlman, A. W., Schecter, N., J. of Bone and Joint Surgery. 30A:944, 1948. "Diffuse inflammation of cartilage; Case report of hitherto unreported entity."
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Section X. "The honored ideals of the Medical profession imply that the responsibilities of the physician extend not only to the individual, but also to society where these responsibilities deserve his interest and participation in activities which have the purpose of improving the health and well being of the individual and the community."

PRINCIPLES OF MEDICAL ETHICS
J.A.M.A. July 27, 1957

Medical Ethics and Etiquette

This final section of the Principles of Medical Ethics deals with the responsibility of the physician towards the health and well being of society in general, and to his immediate community in particular.

What is called Public Health, was, until relatively recent times, frequently suspect by the practitioner of medicine. It required him to do things at times, such as filling out birth certificates, reporting certain diseases, etc., which he considered to be a nuisance, or actually uncalled for. Then around the turn of the century, in the eyes of a number of practitioners, public health activities took on a sinister aspect, because public health officials became concerned not only with the prevention but even treatment of tuberculosis, diphtheria, venereal disease, etc. In other words, public health activities appeared to certain practitioners to be a threat to their practice of medicine and hence their economic security. It has always seemed to me that nothing arouses the righteous and vocal streak more rapidly in my colleagues, than a threat to what they consider the proper economy of medical practice. However, this reaction, while hedonistic, also demonstrates that the doctor is a normal human being.

By and large, this feeling that public health activities constituted a threat to practicing physicians has disappeared, or is disappearing. Practitioners do not often work themselves into a lather over the thought of State or Municipal sanitoria, tuberculosis clinics, venereal disease treatment clinics, immunization programs, mental health clinics, and other activities of modern Health Departments. (There was some problem relative to school physicians, etc. administering poliomyelitis vaccine in the spring of 1956. In certain areas of our country local medical societies really got up in arms about this.) The main reason for this change in outlook has been the gradual development of social consciousness by physicians, their realization that they don't want to get out of step with the society in which they live, and to the fact that they are con-

PREAMBLE

These principles are intended to aid physicians individually and collectively in maintaining a high level of ethical conduct. They are not laws, but standards by which a physician may determine the propriety of his conduct in his relationship with patients, with colleagues, with members of allied professions, and with the public.

vinced that most Health Department activities do not constitute an economic threat to their way of life. In 1958, the up-to-date conscientious practitioner demonstrates an active interest in all programs which are designed to improve the welfare, health, and well being of the residents of his community. He must be aware of the pros and cons of proposed health and welfare programs in order that he may intelligently support them, or if the need be, just as intelligently, combat them. He must serve on committees, on health boards, cooperate with health authorities, and in every possible way bring his influence, and that of accurate (not fuzzy) modern medical thinking which he represents to bear on the activities of the local health and welfare departments. It is not only his right as a citizen to do so, but also his duty as a doctor to take a very active interest in the health and welfare of his community. And, as part of this duty, he "should enlighten the public concerning quarantine regulations and measures for the prevention of epidemic and communicable diseases . . . should notify constituted public health authorities of every case of communicable disease under his care . . . (and) *when an epidemic prevails . . . must continue his labors without regard to the risk of his own life*" (italics mine). (1955 Edition of The Principles of Medical Ethics.)

It is important that medical information be honestly, clearly, and properly presented to the lay public. Hence, it is considered ethical for a physician to meet the request of the American Medical Association or any of its constituent or component medical societies "to write, act, or speak for general readers or audiences" (1955 Edition of The Principles of Medical Ethics). In practice, it has been accepted without question, as far as I am informed, that a physician may speak or write for lay consumption when asked to do so, by organizations such as the Heart Association, the National Foundation for Infantile Paralysis, and the American Cancer Society, to name but a few of such groups. Furthermore, as far as I am aware, constituent societies have not objected to their members addressing local service clubs, such as Rotary, Kiwanis, Lions, etc., on subjects of current medical interest. Furthermore, it is not considered unethical for public relation committees of societies, or physicians themselves, to interpret for the press medical data which has been presented at a medical gathering. It also appears permissible (at least I have heard of no great outcries against the practice) for Medical Schools or Universities to release information relative to various phases or aspects of medical research, which are being conducted in such institutions. *In all such dealings with the laity, the press, the radio, or television, the doctor who is utilizing such media must remember that good taste, restraint, and modesty on his part*

must be the order of his performance, and that he must not in any way offend his colleagues by giving the impression that he is attempting to advertise or aggrandize himself by his performance. Should he attempt the latter, his behavior is definitely unethical.

Finally, as all of us are aware, the field of medical public relations is continually expanding. Experience has shown that this has paid off with our people. Therefore, authoritative articles prepared for magazines of national circulation or the newspapers on advances in medicine, help create confidence among the laity. These articles are greatly strengthened and their authority attested to, if they bear in writing, the statement that they have the approval of a responsible body such as the American Medical Association or one of the constituent or component societies, major medical research groups, major professional societies, medical schools, or the proper medical agencies of government at the federal, state, or municipal level.

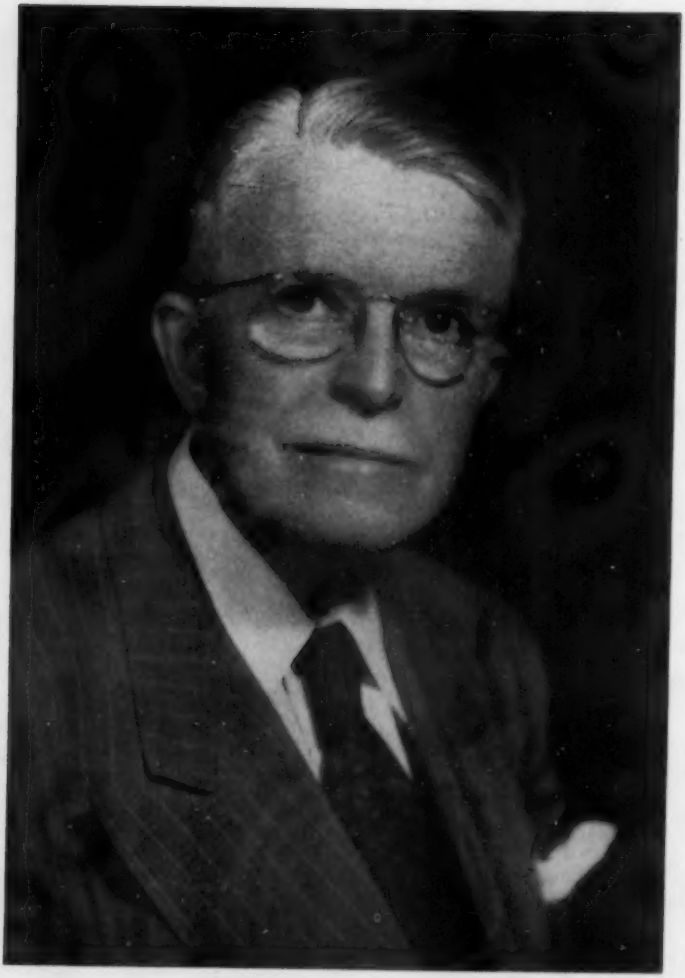
Can Radiation Cause Thyroid Cancer?

"There have been repeated reports indicating an association between therapeutic x-irradiation of benign disease in childhood and the later development of thyroid cancer in a small, but highly significant, number of the children so treated.

"The experimental work indicates that the administered irradiation is potentiated by endogenous endocrine activity, in the development of thyroid cancer. Such a mechanism may account for the increased risk after the use of x-rays in the infant or growing child, compared to that in the adult.

"This review of clinical and radiobiologic data on the relationship between radiation and thyroid cancer suggests: (1) restriction of the use of I^{131}, including tracer doses, in the young patient until results of further studies of radiation carcinogenesis in the neonatal and childhood period are available, and (2) no restriction of the use of therapeutic doses of I^{131} when indicated in the adult patient, since there is no evidence, clinical or experimental, that radiation can cause cancer in adult thyroid tissue."

B. J. Duffy, Jr.
Journal of Clinical Endocrinology and Metabolism
Vol. 17, No. 11, Pp. 1387-88



Arthur C. Jacobson, M. D.

On October 15, 1958, death came to Dr. Arthur C. Jacobson, Editor-in-Chief of *Medical Times* for 31 years. He was 86 years old.

For many years he successfully combined two careers, as he did not give up his busy general practice when he assumed editorship of the journal in 1927. When he retired from this post in 1958, to become Editor-in-Chief Emeritus, he received many tributes from leading figures in medicine, government, publishing and education.

These tributes came from such men as David B. Allman, M.D., then President of the American Medical Association; Walter C. Alvarez, M.D., Editor, *Modern Medicine;* Robert F. Wagner, Mayor of New York City, and Averell Harriman, Governor of the State of New York.

Dr. Jacobson's medical career was long and fruitful. He received his pre-medical training at Columbia University when this institution had a branch in Brooklyn. He went on to Long Island Medical School, where he studied under such well-known men as Jewett and Alexander Skene, and then interned at Brooklyn Hospital.

After an additional year of training at the New York Post Graduate School he opened a general practice in Brooklyn Heights, across the East River from lower Manhattan. He practiced there for over 50 years and delivered more than 1,000 babies.

In addition to being an outstanding physician, Dr. Jacobson was a gracious and kindly man who created a strong bond between himself and his patients. Indeed, in his later years he could not fully retire because many of his patients would go to no other physician.

It was a consuming interest in his profession that led him into medical writing and editing. Under his guidance *Medical Times* grew in scope and stature; he left upon it his imprint of integrity, culture, and high ideals.

Those who had the privilege of working with Dr. Jacobson and knowing him as a wise and patient friend feel a great personal loss at his passing.

EDITORIALS

The Hopeless Case

Recently, "The Management of the Hopeless Case" was discussed by Dr. Roland Gibson of Winchester, England, before the Section of General Practice of the Royal Society of Medicine in England (Proc. Roy. Soc. Med., 51, pp. 111—,1958). He pointed out that " 'Hopeless patients' are those of any age group who are suffering from a disease or state, which we, with our present knowledge, regard as incurable". The list of such diseases is decreasing, and in dealing with patients currently classified as "hopeless" as far as outcome of disease is concerned, it was pointed out that those who are hopelessly ill must never be deprived of their last joy on earth, namely hope. Furthermore, in defining "hopeless" in terms of curability, one must realize that we are dealing with (1) individuals whose expectation of life has been markedly diminished by the disease from which they are suffering, and (2) those people who are suffering from a disease from which it cannot be expected they will recover, but who will not have their longevity decreased, or much decreased, as the result of it.



PERRIN H. LONG, M.D.

The behavior of the practitioner towards the individual who is hopelessly ill and towards his relatives and/or friends may be of the greatest importance in making the remaining allotted days of the patient's life bearable, if he comes within the first category, and interesting and even useful if he falls in the second category.

A typical example of the first category would be the case of a patient who had a supposedly operable cancer, but who was found to have metastases at operation. Lets first consider this as happening to a man. The doctor should be first concerned with what he will

tell the patient and his family. This is a matter in which the physician must use his best judgment and knowledge of his patient and to time what he plans to say correctly. His patient may be a man having broad interests, which can be wound up or arranged essentially only by the man himself. He may be the type of individual who "must" know. On the other hand, he may be the type who blows up or goes to pieces when faced with adversity.

Obviously, with death in the offing, the doctor should be guarded in what he says. In other words, the physician must exercise tact and good sense in deciding what, and how much of what, he will tell his patient.

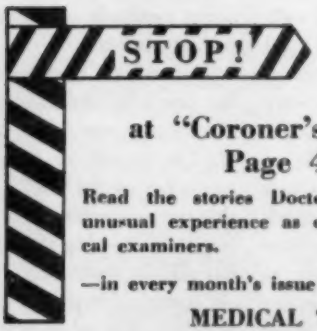
There is a belief about that women cannot face the truth, as far as prognosis is concerned, as well as men. The evidence for this belief is almost nonexistent. Women are generally much more hard-headed and more inclined to "want to know" because they, too, have to rearrange their lives when faced with death. They have to figure out who's going to do the housework, the marketing, the cooking, and washing, and the many other things which make up the workday of a woman. As a rule, subterfuges relative to prognosis work much less well with women. They are, as a rule, much more truthful than men, and by virtue of being truthful, expect the truth in return. So the physician must exercise great tact and judgment, when faced with a woman who is hopelessly ill.

Be it a man or a woman who is creating a problem in communication for the physician, there is one thing the doctor must constantly remember, and that is, that "hope springs eternal in the human breast". The same should be true of the good physician, and he should explore every avenue which opens up relative to the treatment of his patient's disease. Furthermore, he should be sympathetic with his patient, or the patient's relatives, or friends, when they bring him reports of this or that type of "cure". He must not be annoyed, and he must make certain of the truth or falsity of the stories of "cure" before accepting or discarding them. Above all, he should not adopt a superior attitude and dismiss information brought to him as ridiculous (just because he has not heard, or known about it). After the sulfonamides had been introduced into this country, patients died of meningococcal and beta hemolytic streptococcal meningitis because their physicians would not believe newspaper reports that cures were being effected in these infections through the use of sulfonamides. While a doctor should exercise sound judgment relative to the use of new therapeutic measures, he should never permit himself to be so bullheaded about methods of treatment, that his patients suffer.

The second category of patient—i.e., the one who suffers from an incurable disease but one which may not shorten his life, is one who really may tax the resources of the doctor. An example of this type of patient is an individual who begins to develop Parkinson's disease in his middle sixties and lives to be eighty or more—a type of medical situation which is becoming more and more frequent. Here the physician should discuss with considerable frankness (but not brutally) the probable course of the disease, and say something about how disabling or crippling it will be both mentally and physically. He should outline adequately to the patient and his relatives the current methods of treat-

ment and, if there are several therapeutic approaches, why he is selecting initially the one which he is recommending. Here it is good to point out any possible shortcomings of the proposed therapy, and why, because of lack of great effectiveness, toxicity, etc., it may be necessary in the future to shift to another form of treatment. Furthermore, the physician should assure the patient or his relatives of the fact that he, the doctor, will be constantly on the lookout for any new developments relative to the treatment of this particular "incurable" disease.

Again as with the acutely "hopeless" case, the physician must not get upset when the patient or his relatives and friends bring to his attention this and that report of a "cure" or alleviation of the particular disease in question. It's only natural for them to do so, and the doctor should accept and investigate such reports seriously and good-naturedly. *They are only trying to be kindly, and after all, anything which might help his patient should always be most welcome to the doctor.*



at "Coroner's Corner"
Page 49a

Read the stories Doctors write of their unusual experience as coroners and medical examiners.

—in every month's issue of

MEDICAL TIMES

The New and Larger **Medical Times**

BEGINNING WITH the January issue, MEDICAL TIMES will appear in a new format, designed to enhance both its appearance and readability. Changes were made only after careful thought and planning followed by thorough field testing among physicians. They gave their enthusiastic approval.

The new MEDICAL TIMES was designed under the supervision of Paul Rand, national award-winning typographical designer. A new and larger type face will make for greater reading ease. Larger page size will increase the visibility of both editorial and scientific material, and will permit the employment of improved techniques in printing, charting, tabling and coloring. Perhaps the most striking innovation will be in the front cover. Each month, it will carry a four-color painting depicting a familiar and perhaps heart-warming situation from everyday practice, or an equally significant allied medical scene. During 1959, these covers will be painted by three of the nation's most famous artists—Stevan Dohanos, Melbourne Brindle and Alex Ross.

These covers will make MEDICAL TIMES much more attractive and eye-catching, in contrast to the rather drab and staid covers traditionally used by journals containing original scientific material.

As in the past, the emphasis of the editoral content of MEDICAL TIMES will be directed toward the continuing post-graduate education of the practitioner of medicine. Featured in each issue will be clinical presentations by authorities in the various fields of medicine and surgery, who understand the problems of diagnosis, therapy, and prognosis which are faced daily by the practitioner.

It will be the continuing and primary aim of the Editor of MEDICAL TIMES to make it outstanding as *The Journal of General Practice.*

Perrin H. Long.

THE LONG AND SHORT OF IT

Effect of Smoking on the Cardiovascular System of Man

"In normal subjects smoking or the injection of nicotine produces transient vascular effects on the heart and blood vessels. Apparently tobacco angina or tobacco heart is a clinical entity. Abnormal vascular responses to smoking in normal subjects may be due to hypersensitivity to nicotine, such as occurs in tobacco heart, or to the effect of nicotine on a vascular system demonstrated to be hyperreactive by the cold pressor test.

Tobacco is one of the most prominent contributing factors in thromboangiitis obliterans, as thromboangiitis is rarely found in nonsmokers.

The question as to whether the effects of smoking are due to sudden increased work of the heart or constriction of the coronary artery has stimulated a great amount of research. There is evidence to support both theories.

The findings of abnormal ballistocardiograms before and after smoking in the offspring of hypertensive parents and after smoking in the offspring of parents with coronary heart disease are highly important.

Statistically coronary artery disease seems to occur more frequently and at an earlier age in the person who smokes much than in the nonsmoker. Likewise, the mortality rate is higher among younger persons with coronary disease who are smokers than among those who are nonsmokers."

By Grace M. Roth and Richard M. Shick.
Circulation. Vol. XVII, No. 3. P. 456, March, 1958.

Office Surgery

Minor Lacerations of the Face

Minor lacerations of the face are often handled in the physician's office, or hospital emergency room. Meticulous care in the primary closure of these injuries will be rewarded by minimal reaction and fine scars. This is of paramount importance in facial wounds, where the cosmetic result is of understandable concern to the patient.

Wound Healing The basic principle behind wound closure is the approximation of healthy viable tissue in such a manner that the normal process of healing can proceed unobstructed. The healing of wounds can be thought of as a triphasic phenomenon. The initial phase, known as the lag period, lasts about four days, under ideal circumstances. Wound strength during this period is dependent upon the suture material, except for the cohesiveness of the fibrin clot between the wound edges. During this lytic, or inflammatory phase, dead tissue is removed in preparation for the next stage, that of cellular proliferation. This involves fibroplasia, endothelial budding, and epithelial regeneration. Fibroblasts invade the fibrin clot, endothelial buds create granulation tissue, and epithelial cells bridge the surface defect. The wound rapidly gains strength from the fifth day on. The final phase of wound healing involves scar tissue contraction. With the maturation and shrinkage of collagen fibers the scar gradually becomes less vascular, paler, and smaller. This settling period requires about six weeks for completion.

Local Factors Influencing Wound Healing With this abbreviated picture of wound healing, we can now consider some of the local factors which influence and alter these various phases. Dead or devitalized tissue prolongs the lag period in proportion to the amount present. Death of tissue may be the result of the original trauma, the crushing effect of injudiciously used instruments, strangulation by mass hemostatic ligatures or tight sutures, or subsequent infection. Accurate approximation of the wound edges without tension reduces the healing area to a thin plate, extending from the surface to the depths of the wound. This is the ideal situation for unobstructed healing. If dead space is left it becomes filled with blood. The

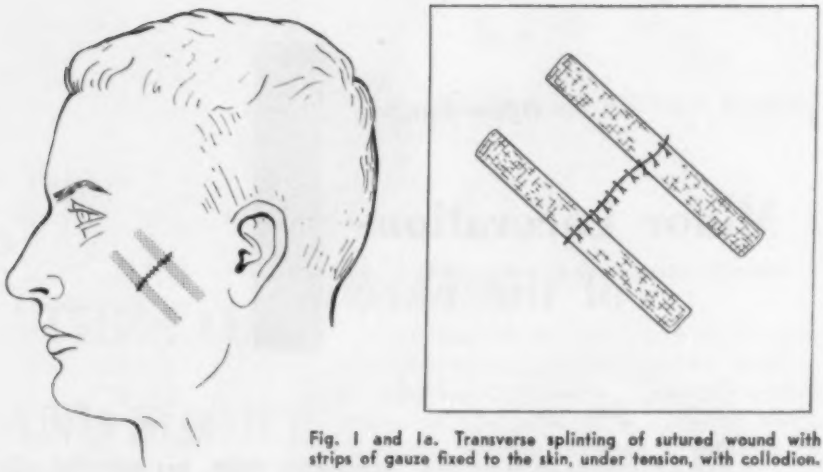


Fig. 1 and 1a. Transverse splinting of sutured wound with strips of gauze fixed to the skin, under tension, with collodion.

resultant hematoma must then be organized, liquefied, and absorbed. This markedly increases the inflammatory reaction and edema of the surrounding tissues. Foreign bodies in the form of suture material, or particulate matter, delay healing in the same fashion. It should be remembered that there is a normal inflammatory edema following any wound closure, which converts loose sutures into snug ones, and tight ones into strangulating ones. This is particularly important in cutaneous sutures, where undue tension results in permanent stitch marks, which are especially undesirable on the face.

Tension on the wound edge should be relieved as much as possible throughout the entire period of healing. As pointed out previously tight sutures delay the first phase by strangulation and tissue death. During the second and third phases, scars can widen appreciably under the normal pull of the facial musculature. After sutures have been removed the wound should be splinted by transverse strips of gauze fixed to the skin with collodion, or adhesive tape. (Figure 1) Although seldom practical, ideally these splints should remain in place until the period of contracture is complete. This secondary spreading of scars is most manifest in wounds which are perpendicular to Langer's lines, the lines of normal skin tension. These lines parallel the wrinkle lines in the face, and can be easily visualized by having the patient make exaggerated facial expressions. Hypertrophic and keloidal scars also have a greater tendency to form in wounds which transect Langer's lines.

Principles of Facial Wound Closure There are certain basic principles which must be adhered to in the repair of facial wounds. The most important of these is that of "atraumatic technique." This begins with the cleansing of the wound. Exposed tissue should be covered with sterile sponges, then the surrounding skin shaved, and washed with surgical soap

(pHisohex, pHisoderm, G11, tincture of green soap, etc.) and a dilute non-caustic skin antiseptic. (Merthiolate, Zephiran, Metaphen, etc.) The wound is then irrigated with copious amounts of sterile saline, and lightly rubbed with moist cotton, if necessary. Particulate matter is meticulously picked out, to prevent traumatic tattooing. The blood supply to the skin of the face is exceedingly good. Consequently flaps of skin which would slough in other areas of the body may survive on the face, if handled gently and carefully. This precludes the use of heavy forceps which crush and devitalize even normal tissue. Skin edges should be held by skin hooks, or at the most, lightly applied fine toothed forceps. Debridement should be carried out judiciously, but with reticence. If bleeding is noted from the edge of questionable tissue, is should be conserved. Obviously devitalized tissue should be removed by sharp dissection. The use of scissors is contraindicated, since they function by crushing and shearing, leaving a margin of devitalized cells in their wake.

Hemostasis should be accomplished by accurately applying fine mosquito clamps to the bleeding vessels, including a minimal amount of surrounding

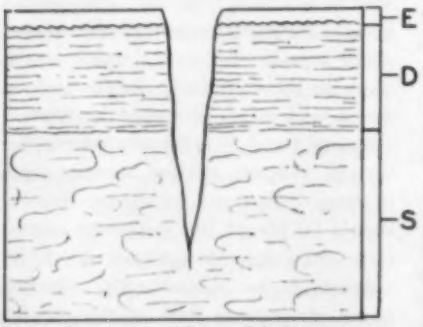


Fig. 2. Cross-section of wound before suturing. E. Epidermis, D. Dermis, S. Subcutaneous tissue.

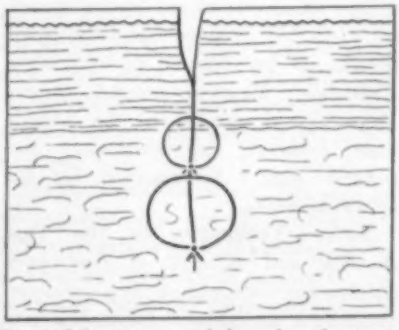


Fig. 3. Subcutaneous and deep dermal sutures, of fine material, tied so that the knots are buried.

Fig. 4. Correct placement of cutaneous suture.

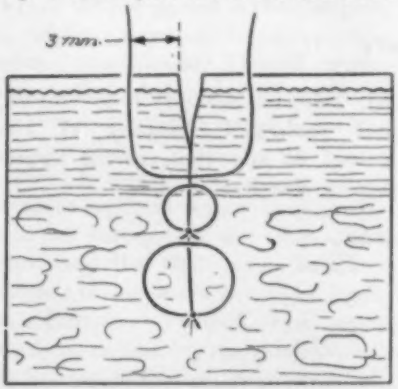
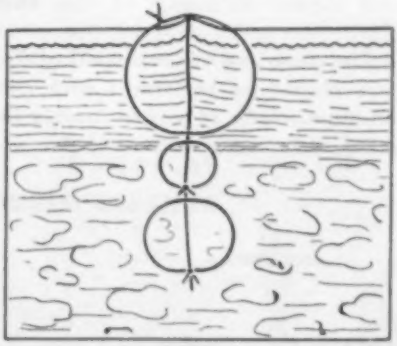


Fig. 5. Slight eversion of wound edges produced by rectangularly placed cutaneous suture.



tissue; 0000 or 00000 plain catgut is used for ties. Dermal bleeders may require nothing more than temporary clamping. By this approach the amount of strangulated tissue and foreign material is kept at a minimum.

All tension should be carried by the subcutaneous and deep dermal stitches, so placed that the skin edges all but fall together. The cutaneous stitches then serve only for accurate final level approximation.

Whenever there is loss of substance, tension should be lessened by undermining the wound edges on either side for a distance equal to the width of the defect. If this is appreciable, the wound should be closed in the operating room. In children especially, better results can be obtained under general anesthesia. Whenever possible, closure is performed parallel to the wrinkle lines; however, any revisionary procedures should be reserved for the operating room.

Suture Technique In the face, through and through or continuous stitches are violations of the principle of atraumatic technique. Closure is performed in layers. The subcutaneous tissue is approximated by interrupted vertical sutures of 000 or 0000 chromic catgut, so placed that knots are deep. (Figures 2 and 3) if the wound edges still gape, another layer of interrupted 0000 plain catgut sutures may be placed in the deep dermis. The needles used should be small, sharp, curved, and of size proportional to the suture material; 0000 to 000000 silk, nylon, or dermalon should be used in the skin. Of these materials, silk is probably the most easy to work with, but the synthetic products cause less tissue reaction. The needle is passed perpendicularly through the full thickness of skin three millimeters from the wound edge, then across the wound and up through the opposite edge in a similar fashion. This results in a rectangular course of the suture, which is converted to a circular course when the suture is tied. In this fashion the wound edges are slightly everted. (Figures 4 and 5) Alternate interrupted vertical mattress stitches may be used, if eversion is not satisfactory. Sutures should be placed five millimeters apart to produce accurate approximation. By supporting the wound with collodion gauze strips, one half of the stitches may be removed on the third day, and the remaining ones on the fifth day.

Summary

The closure of minor wounds of the face should be performed with the basic principles of wound healing in mind. Atraumatic technique, fine suture material, accurate layer closure, and prolonged splinting of the wound, all contribute to the formation of acceptable scars.

Otolaryngology and the Law

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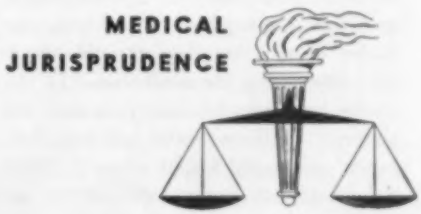
An otolaryngologist is one who specializes in diagnosis and treatment of diseases of the ear, nose and throat. This article will examine some of the malpractice cases in this field, many of which have arisen in connection with an operation.

Diagnosis A physician is not negligent in advising an operation because it subsequently appears that the operation was not necessary.

Plaintiff had had a nodule on her neck for several years; however she never experienced any trouble with her neck or throat. While examining her prior to gall bladder surgery defendant noticed the nodule and advised surgery. In defendant's opinion the nodule was a pre-malignant lesion. Plaintiff underwent a thyroidectomy. The tumor in the thyroid gland was removed. It was not cancerous.

Plaintiff alleged that because of defendant's negligent diagnosis she underwent an unnecessary operation. The Court held that there was insufficient evidence to support a charge of negligent diagnosis. Plaintiff's case rested largely on the fact that the nodule proved to be non-malignant upon removal. However it was uncontradicted that there was no test known to determine in advance of removal whether or not the growth was cancerous. Moreover plaintiff produced no medical testimony to contradict defendant's diagnosis that the nodule was a pre-malignant lesion, and that surgery was a reasonable safety measure.[1]

An 18 month old infant attempted to eat peanuts, shells and all. She choked and was thereafter unable to speak above a whisper. Defendant examined the child, but could not locate or dislodge the foreign substance that was causing the condition. He placed the child in a hospital to keep her within instant medical call should she choke again. After three days he opened the trachea for exploratory purposes. The child died within 24 hours. A jury verdict for



the plaintiff was reversed by the Appellate Court. The Trial Court erred in permitting the propounding of a hypothetical question to an expert witness upon the advisibility of an operation which included the fact that upon the operation no foreign substance was found in the trachea or windpipe. The Appellate Court stated that where a surgeon obtained all the information which proper practice would disclose, and was, under such information, justified in operating, he would not become liable if on the performance of the operation it developed that he erred in his conclusion.[2]

Plaintiff was suffering from a sore mouth, gums and throat. She told defendant she had previously had trench mouth, but had apparently been cured. He swabbed her mouth and throat, gave her some prescriptions for medicine and instructed her to return the following day. The next day he again swabbed her mouth and throat and diagnosed her disease as syphilis in the last stages. He informed plaintiff that she required immediate treatment; that there was not even time to prepare a Wasserman test although he had the necessary facilities. Moreover he thought a Wasserman was not necessary in as much as he was certain she was afflicted with syphilis. No treatment was given that day. The next day plaintiff returned with her sister to whom the physician repeated his advice. Plaintiff thereupon underwent treatment of injection of medicine into her hip. Treatments continued every other day with the physician alternating the medicines. In two weeks her eyes became inflamed and watery. In three weeks her legs, feet, hands and body began to swell. Still the treatments were continued for another three weeks. She then became semi-conscious; her skin was covered with pimples exuding pus and water, and defendant removed her to a hospital and there treated her for thirteen days. When her condition failed to improve her family removed her to another hospital where a different physician diagnosed her condition as exfoliative dermatitis, trench mouth and ptyalism. She suffered considerable permanent injury.

At the trial expert testimony was that a diagnosis of syphilis could not be made without a Wasserman test, microscopic test or blood smear. The superficial examination of looking into and swabbing the throat was undependable and not relied upon by the medical profession to determine the existence of syphilis. The Court held that the question of negligent diagnosis was one which should be submitted to the jury. On these facts the judge could not determine without a jury that the diagnosis was not negligent.[3]

Defendant removed plaintiff's tonsils. Within three months she developed rheumatism and neuritis in her arms, legs and back. Defendent diagnosed the cause of her trouble as bad teeth, and in the ensuing six months advised her to have two teeth removed. Plaintiff's dentist removed the teeth, although he protested that the teeth were good. Her neck began to swell, and defendant prescribed gargle and heat applications. Finally another specialist was called in who diagnosed plaintiff's condition as absorption from the remnants of tonsil which defendant had failed to remove. One of the issues in the case was whether defendant was negligent in failing to diagnose plaintiff's rheumatism, arthritis, and swelling in the neck as being caused by remnants of tonsils. Expert

testimony established that by the exercise of ordinary skill and care a physician would have made the proper diagnosis. The verdict was for the plaintiff.[4]

In each instance the courts have stressed that a physician is not liable for error of judgment, or an honest mistake in making a diagnosis.

Anesthesia A patient died almost immediately after a tonsillectomy in which the surgeon used a local anesthetic. Given only these facts a jury could not find the surgeon used an excessive amount of anesthesia, or injected poison into the throat of the patient, ruled the Court.[5]

Prior to administering anesthesia it is the duty of the physician to discover by a proper physical examination whether patient is suffering from a physical condition making the use of a certain drug dangerous to the patient. The physician will be liable for negligence if he administers anesthesia which proves harmful to patient if he knows or *should have known* of patient's peculiar susceptibility. Physician performed a tonsillectomy upon a child who had a cold and running nose. The child died from cerebral edema due to anoxia. Expert testimony established that it was bad practice to administer ether to a person with a cold. The court held that upon this evidence the jury was entitled to find for the plaintiff.[6]

A nine year old boy died after a tonsillectomy. Prior to the operation a cursory examination in which the surgeon felt the pulse, looked at the throat, and used a stethoscope, failed to disclose to surgeon that patient was suffering from rheumatic fever, had a rheumatic heart, and had just recovered from the flu. Plaintiff's expert testified that it was dangerous to use the particular anesthetic employed, or perhaps any anesthetic until the boy was better prepared physically for its reception. Evidence of negligence was sufficient to take the case to the jury.[7]

Injury to Other Organs A physician in operating upon the nose or throat of a patient may injure or remove other organs not within the sphere of the operation. In some instances the courts have been able to hold as a matter of law that there was no negligence. The court under these circumstances will hold for the defendant without sending the case to the jury.

In one such case a four year old child had her tonsils removed. A Crowe-Davis mouth gag was used. Four of the child's upper teeth were displaced and removed by the surgeon so they would not be inhaled and pass into the lungs. The Court held that ordinary care was used both by the surgeon and anesthetist who followed the accepted procedure in such cases. These accidents frequently occurred in tonsillectomies despite the use of ordinary and reasonable care.[8]

Where there is evidence of negligence, however, the court will send the case to the jury. A surgeon cut the tongue of a child while removing her adenoids. The gag slipped and plaintiff's father, who was present during the operation, testified that defendant pulled the instrument from the child's mouth with a sudden and violent jerk. The facts were sufficient to permit the jury to bring in a finding of negligence. The court pointed out that:

"This is not the ordinary case where a practitioner is sought to be charged with liability for alleged improper treatment of some bodily ailment or affirmity. He was employed to remove ade-



noids from the plaintiff's throat and there is neither claim nor proof that he did not successfully remove them. His negligence, if any, was in failing to take due care to avoid injury to the undiseased parts in the vicinity of which the operation was performed; and while it may be true that, had the operation upon the adenoids been unsuccessful and disappointing, no inference of negligence or want of skill would arise therefrom, it does not follow that this rule applies with the same force to an injury done by him to sound and undiseased parts of the plaintiff's person which he was not called upon to treat and did not pretend to treat. . . . The charitable presumptions which ordinarily protect the practitioner against legal blame where his treatment is unsuccessful are not here available. It is a matter of common knowledge and observation that such things do not ordinarily attend the service of one possessing ordinary skill and experience in the delicate work of surgery. It does not need scientific knowledge or training to understand that, ordinarily speaking, such results are unnecessary, and are not to be anticipated if reasonable care be exercised by the operator. When they do happen then proof of other facts and circumstances having any fair tendency to sustain the charge of negligence will be sufficient to take the question to the jury."[9]

Emergency Defendant was in an adjoining room preparing for a tonsillectomy operation while ether was being administered to plaintiff. Plaintiff became cyanotic and defendant was called hastily to plaintiff's aid. Defendant used a mouth gag to force open the plaintiff's mouth as the first step in enabling him to breathe. While he was

doing this the rubber tip slipped from the end of the mouth gag and lodged in plaintiff's bronchus. Defendant then removed plaintiff's tonsils without removing or attempting to remove the rubber tip. Plaintiff had to undergo a second operation for the removal of the rubber tip from his bronchus.

Defendant testified that he had determined that it was unlikely that the tip had slipped into the bronchus. He further stated that since plaintiff was not a good subject for etherizing, he had considered it best to proceed with the operation.

The Court, in setting aside a jury vedict for plaintiff, decided that whether or not the tip should have been located and removed at once, or whether the tonsillectomy should have been concluded, was a matter for the judgment of the surgeon. The expert witnesses all agreed that defendant pursued the proper course. In the course of its opinion the court wrote: "An unfortunate result, arising from an accident, excusable under the circumstances, was made the basis of a finding of negligence."[10]

Formation of Scar Tissue Often scar tissue forms after an operation without any negligence or lack of skill in the performance of the operation. Where there is any question of doubt, however, these cases are sent to the jury for a determination of the question of negligence.

In a Connecticut case considerable scar tissue formed after a tonsillectomy. Voluminous conflicting expert testimony was produced both by plaintiff and defense. The lower court set aside the jury verdict for plaintiff and directed a verdict in favor of defendant. The Appellate Court reversed the decision of the trial court and said:

"The jury were not required to accept the opinions of the experts called by the defendant, as opposed to the conclusions of the witness for the plaintiff. It could not be said as a matter of law that reasonable men were so bound to reach one conclusion only, that a verdict reflecting such conclusion should be directed."[11]

Similarly decided was the case of *Coleman v. Wilson*.[12] A specialist in the diseases of eye, ear, nose and throat performed an operation upon patient which consisted in the separation of the turbinate bone from the septum or central partition of the nose to which it had become adherent, and the removal of portions of the bone, together with some tissue that protruded from above into the nostril. The patient died eighteen days later from an inflammation of the coverings of the brain. The after-treatment consisted in great part of the repeated cutting away of a tissue growth that kept forming in the nostril at or near the site of the original operation. Defendant testified that it grew as quickly as he cut it away, and he feared malignancy. No malignancy tests were made. Experts for plaintiff testified that the growth was a normal product of the inflammatory process set up by the operation, its removal was not proper, and *may* have caused patient's death. The court held that the question whether the growth was a natural barrier or a cancerous growth was clearly one for the jury.

Postoperative Treatment In a 1934 Kansas case an osteopath performed a tonsillectomy upon a young boy. After the operation, and while the child was still bleeding, defendant left the child in the care of his parents. The time was 12 noon. Before he left de-

fendant gave the child a hypodermic injection which he said would coagulate the blood. He left no instructions for the child's nourishment. The boy hemorrhaged almost continually, took no nourishment, and vomited every half hour. During the day and evening the parents informed the osteopath of the bleeding, but he said it was alright. At 3:30 a.m. he gave the child another injection. At 9:30 the next morning the defendant performed a second operation which stopped the bleeding. The child died that afternoon.

Experts testified that the bleeding should have been stopped without waiting for an emergency that only two or three sutures were necessary to stop the hemorrhaging. Despite the fact that plaintiff's expert was unable to state the cause of death the court upheld a jury verdict for plaintiff. There was sufficient evidence to establish negligent postoperative care by defendant.[13]

In a New Hampshire case where death occurred after a tonsillectomy the court indicated it might have been negligent for the surgeon to undertake an operation upon another patient immediately after plaintiff's operation was completed. The surgeon was unable to respond to the first three calls the nurse made after plaintiff started to bleed, and he had responded to a call outside the city soon after the plaintiff had been treated a second time for bleeding.[14]

In an Ohio case a child developed fever, vomited and kept spitting up blood after a tonsillectomy. The physician failed to respond to the father's call for aid. The court indicated that if the jury believed the father's testimony as to the amount of bleeding, and the call to the doctor, the jury did not need expert testimony to determine that the doctor was negligent in failing to respond to the call.[15]

Unauthorized Operations: Assault and Battery A physician must have the consent of the patient, if he is competent, or of one authorized to give consent, to an operation. Without this consent the physician will be guilty, at the least, of a technical battery. In such cases nominal damages of six cents are awarded, where there is no injury. The physician is liable however for any untoward results of the invasion of the patient's body whether negligent or not in those cases where no consent has been obtained.

A minor, nine years old, was a normal boy in the fourth grade of school. There was some suspicion that his tonsils were diseased, and a visiting school nurse took him to a city physician and then a hospital.

The city physician sent a note to the hospital requesting the removal of tonsils and adenoids. The boy went to the hospital accompanied by his fifteen year old brother. The parents were not notified of the operation, nor was their consent asked. No emergency was pleaded. The boy fell out of bed during the night. Two weeks after the operation the boy went blind.

At the trial no causal relationship between the operation and the blindness was proved. The court allowed damages only for the unlawful assault in the amount of $600.[16]

An operation in excess of the one authorized is also assault. A physician was engaged to operate on the septum of plaintiff's nose. At the same time, and without her authority or consent, physician removed plaintiff's tonsils. No emergency was indicated. No general directions had been given by plaintiff

to the physician. The court refused to charge in this case that only nominal damages could be recovered. Plaintiff suffered severe pain for a long time, and experienced much trouble with her throat. Moreover the court said that simply because the doctors did not know the precise function of the tonsils did not mean they had none. (This was a 1927 case.)[17]

In a recent case (1954) during the procedure of esophagoscopy on a patient the esophagus was punctured. Almost immediately serious infection developed in patient's mediastinum. In the ensuing weeks and months patient became critically ill, underwent three additional major operations, and a large number of minor ones. Negligent postoperative treatment was proved in that defendants prescribed an unsterile diet for patient, knowing her esophagus was punctured, permitting bacteria to enter the chest cavity. The verdict of $64,116.01 was upheld by the court.

One of the issues decided by the jury was that plaintiff had not consented to the operation. The court added that failure to obtain plaintiff's consent was due to inadvertance. A case of assault as well as one of negligence was proved.

The Insurance Company with which defendant carried his malpractice insurance attempted to avert liability by claiming that its policy did not cover any liability of the physician for performing an operation without the consent of the patient. This constituted an intentional assault, claimed the company. It was liable only for accidental assault and battery, under the terms of its policy, it contended. The court held that an unauthorized operation was malpractice and covered by the policy. This was particularly true in this case, added the court, where failure to obtain consent was mere oversight.[18]

The trial court in *Reddington v. Clayman* directed a verdict for defendant. The suit was for unauthorized removal of the uvula during a tonsillectomy. The parents of plaintiff, a minor, claimed that their consent was not given for the removal of the uvula. The physician alleged he told the parents he wanted to remove the uvula because of a history in the family of cancer originating in that area. The appellate court held that the question should properly have been left to a jury.[19]

Summary

1. Mistaken or erroneous diagnosis without proof of want of skill is not actionable.

2. A physician is not liable for advising an operation simply because it subsequently appears that the operation was not necessary.

3. It has been held that where there is no test known to determine whether a nodule is cancerous until it is removed, and where there are no facts contradicting a physician's diagnosis that the nodule is a pre-malignant lesion, surgery is a reasonable safety measure.

4. Prior to a tonsillectomy, it is advisable for the surgeon or anesthetist to determine plaintiff's physical fitness to stand the particular anesthesia to be administered.

5. Physicians have been held liable for malpractice where they failed to discover patient's peculiar susceptibility to the anesthetic used.

6. Courts have often held as a matter of law that removal or loosening of teeth during tonsillectomies was

not negligence, but an accidental occurrence which often happened during such operations.

7. Even slight evidence of negligence, however, is sufficient in such cases, and in cases where undiseased parts of the area have been injured, to take the question to the jury.

8. Postoperative care in tonsillectomies is part of the treatment. Courts have indicated that surgeons should be available after the operation in the event that they are needed. Failure to respond to calls where bleeding or fever occurs may be negligent.

9. In one case the Court indicated it might be negligent of a surgeon to undertake an operation upon a second patient if it would make him unavailable to the calls of the first patient.

10. An unauthorized operation is an assault or battery. Where a physician is engaged to remove the tonsils, he has no license to remove the uvula without specific consent.

11. While nominal damages only may be allowed in technical batteries, (for an unauthorized operation) one Court refused to instruct the Jury that only nominal damages would be allowed plaintiff for the unauthorized removal of her tonsils during an operation on her nose.

12. Unauthorized operations are malpractice and are usually covered by malpractice insurance policies.

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133 East 58 Street



YALE-NEW HAVEN MEDICAL CENTER

During the Civil War a 1500-bed military hospital was established at the site now occupied by this well-known Medical Center.



ONE OF A SERIES ON LEADING MEDICAL CENTERS

In 1826, five professors of the Yale School of Medicine applied for a hospital charter. They argued that not only would they be able to teach their students more effectively but that their patients could also be given better care.

Each professor pledged 10 percent of his annual income for five years, or $100 a year, whichever was larger.

New Haven was then a busy port of some 10,000 persons. And though there was a thriving trade with the West Indies, money was hard to come by for such an unheard of purpose as the construction of a teaching hospital; seven years passed before the new hospital finally opened its doors. With a capacity of 75 beds, it was situated on a hilltop site now occupied by the present Yale-New Haven Medical Center, a few blocks from historic New Haven Green.

During the Civil War a 1,500-bed military hospital was established there, and it is interesting to note that of 23,340 soldiers treated, there were only 185 deaths "and 11 of these were accidental."

Following the Civil War, expansion of the civilian facilities was undertaken so that on the occasion of the Hospital's centenary in 1926 it had cared for 6,425 inpatients, a figure which has since quadrupled.

Extensive additions to both Hospital and Medical School plants have been fairly continuous since the late 20's so that today the Medical Center occupies all of four city blocks and parts of three others.

Advantages Situated in the heart of a New England city of 165,000 where current extensive slum-clearance is providing both a pleasant outlook and extensive modern housing facilities, the Medi-





Above, staff doctors attend scheduled x-ray conferences. Left, typical nursing station, at GNH Memorial Unit. Below, is view of the modern, spacious Hospital library.





Grace-New Haven Hospital sees an average of 80 patients a day in emergency. Here, staff doctor helps accident victim.





Yale-New Haven Medical Center. At left is the x-shaped Grace-New Haven Community Hospital Memorial Unit. Newer buildings include Yale School of Medicine's Harkness Hall dormitory and School of Nursing. School of Medicine (round dome) is behind the New Haven unit of the Hospital.

cal Center enjoys advantages not usually found in metropolitan locales. Many of its patients today are from families whose care at the Center extends back for generations, as medical records attest. Yet the two-and-a-half-century-old university offers educational and recreational facilities second to none on its conveniently compact campus.

Community The Yale-New Haven Medical Center offers an unusual combination of opportunities for resident training in that the teaching hospital, Grace-New Haven Community Hospital, is a true community hospital, owned and operated by a community board of directors, rather than a university-operated facility. For a century and a quarter the Hospital and Medical School have operated together in an harmonious affiliation; community doctors and University full-time professors share the teaching, service and research functions.

The financial pattern set originally by the five founding professors has been followed over the years; many of the buildings now operated by the Hospital were constructed with funds secured by the University. The most recent large addition to facilities, the Memorial Unit of the Hospital with 338 beds and 112 bassinets, was financed by local subscription, while the new Hunter Radiation Therapy Center is currently being constructed with more than $1 million raised jointly by Yale and the Hospital.

Graduate Programs The character and quality of intern and residency training programs are determined by the Medical School. Interns and residents, while rendering service in caring for hospital patients, at the same time are pursuing a program of post-graduate medical education. In recognition of this dual responsibility, residents and interns of Grace-New Haven Community Hospital not only receive appointments on the Hospital house staff but are also enrolled as postgraduate students in the School of Medicine.

In addition to the 175 residents and interns enrolled as postgraduate students, the School of Medicine also offers educational opportunities for postdoc-

toral clinical and research fellows. Fellowships are available in all clinical departments for properly qualified individuals.

The Yale Department of Public Health has pioneered for many years in bridging the gaps between medicine and the sociological sciences. Courses in public health leading to the master's or doctor's degree are offered to physicians, dentists, nurses, engineers, educators, statisticians, bacteriologists and hospital administrators who come each year from all parts of the country and from around the world.

Clinical Material Although the Yale-New Haven Medical Center serves primarily all of Connecticut and southern New England, many of its patients come from distant states and foreign lands.

Since there has never been any tax-supported "city hospital" in New Haven, for many New Haven families the staff doctor in the clinics and awards of the Hospital functions as the "family physician." This arrangement provides a continuity of followup which is valuable to a training program.

In addition, more unusual cases and problems of special interest are referred by physicians throughout southern New England for diagnosis and treatment. The house officers are thus provided with a wide selection of clinical material representing all economic strata. Since third and fourth year medical students serve as clinical clerks on the Hospital wards, the resident staff is relieved of much routine work.

Census Hospital beds number 818, including 112 bassinets and 44 beds in the affiliated psychiatric facilities. In the past year there were 24,587 admissions and 77,391 outpatient clinic visits. Approximately 13,000 surgical procedures are performed annually. Births are increasing each month; the present rate exceeds 4,500 annually.

The average daily census is 508, excluding newborn and psychiatric, with approximately 30 percent of the patients on ward service. However, all patients are available for the undergraduate and postgraduate teaching programs.

Autopsies last year numbered 785 at a rate of 68 percent.

A growing problem, especially in general surgery and the surgical specialties, is the maintenance of a sufficient population of ward patients to provide a satisfactory experience for all residents. With the rapid extension of hospital insurance plans, the shift from ward to semi-private and private is a nation-wide phenomenon that is apparent in all but government-controlled hospitals.

Complete integration with the West Haven Veterans Hospital of the residency training program in medicine, surgery and certain specialties has served to provide more abundant and varied clinical material.

The West Haven Veterans Hospital, located three miles from the Medical Center, is a new facility opened in 1953. It has a bed capacity of 880 and has psychiatric and pulmonary disease services in addition to active, acute medical and surgical services.

Psychiatry In psychiatry, an extensive program utilizes the facilities of the Grace-New Haven Community Hospital, the Yale Psychiatric Institute and the West Haven Veterans Administration Hospital. The minimal duration of training for qualified students is three years and includes clinical experience, seminars in basic sciences and participation in the research program. Emphasis

is on the concepts and practical application of dynamic psychiatry.

The psychiatric outpatient clinic of the Hospital offers abundant clinical material for training in the practical and theoretical aspects of brief and long-term psychotherapy of nonhospitalized patients. The staff doctors may also be assigned to the Yale Child Study Center, the consultation service of the Grace-New Haven Community Hospital (psychosomatic medicine), the Marriage Consulting Service, the Wethersfield State Prison Service, or the Department of University Health (Mental Hygiene Division).

Child Study The Yale Child Study Center coordinates all activities within the University having to do with the development and behavior of children. It operates three programs for children: a child psychiatric unit, a child nursery school and a developmental evaluation service.

Research Yale considers well-balanced research programs essential to a sound educational program, for learning thrives in the atmosphere of research. Here, where the frontiers of knowledge are being advanced, the student is encouraged to adopt an intelligent attitude toward what is not yet known. The philosophy adopted by the Medical Center is that it is especially important that such an atmosphere be found in a medical center where men and women are being educated to practice medicine and conduct investigation in 1998 as well as in 1958.

An extensive research program is supported by University resources, including endowment designated for that purpose, and by grants from foundations and government agencies.

The Yale Medical Library contains more than 289,000 volumes and pamphlets of which about 64,000 are bound periodicals. Some 1,200 periodicals are received regularly. The renowned history library contains several large groups of rare and valuable books, including the collections of the late Dr. Harvey Cushing, the late Dr. Arnold C. Klebs, and Dr. John Fulton.

Outpatient The Hospital operates 67 clinics located within 11 clinical areas. These clinics cover the major specialties of medical practice. More than 300 patients visit these clinics daily. In addition to serving the local community, clinics serve as diagnostic centers for physicians throughout the southern New England area. Staff doctors have an opportunity to handle clinical problems of all types and to follow these patients through the course of their illness.

The emergency room is unusually active, with about 30,000 visits a year in addition to the outpatient clinic visits.

E. Mead Johnson's Mission

FEEDING BABIES



MEN WHO MADE THE MEDICINE

E. Mead Johnson

His career did not follow a set pattern. As a lawyer he had only one case. And as a businessman he bucked the patent-medicine trend of his day, insisting that his infant dietary product be promoted through the profession only.

BETTER

Today's mother who finds herself with an infant feeding problem knows where to get help—from her pediatrician.

But it wasn't that simple around the turn of the century. Then many a distraught mother, not knowing where to turn, accepted the advice of her grocer or a self-styled neighborhood expert. She was lucky if the mixture of misinformation didn't make her baby worse.

Edward Mead Johnson gave the problem much thought and arrived at these conclusions: "not all babies are alike" and "physicians' babies are better babies." These two truisms—the need for an individual formula for each baby and the necessity of the physician prescribing the formula—became his guides when he marketed a dietary product for infants.

Johnson had no medical training but was, in fact, a lawyer. Above all, he was a practical and observant man. Thus he was able to gain an insight into infant feeding problems because of experiences within his own family.

He was a farmer's son, born in 1852 on the outskirts of a village near Carbondale, Pa. He taught a year of country school, then took a job with the engineer crew of an anthracite mining company in the vicinity, and saved enough to pay his way through the law school of the University of Michigan.

On graduating in 1875 he returned East to practice. He had handled just one case—here the muse of history nods and fails to record the outcome—when his older brother Robert beckoned him to quit law for business.

Business The particular field of business was medical supplies. Robert Wood Johnson had served an apprenticeship in pharmacy at a cousin's drugstore and set himself up as a drug broker in New York; after devising an improved process for making plasters, he entered into a partnership, Seabury & Johnson, in that city. Robert hired Mead to help on sales. As sales grew, Robert hired another brother, James—not a lawyer, but a mechanical engineer—to run the factory. The association of the three energetic brothers continued in this fashion until 1885.

Mead was 33, a prospective bridegroom. He wanted greater opportunity for advancement. James too was restive; swept by the prevailing tide of medical enthusiasm for Listerism, he had ideas for developing special machinery necessary to produce aseptic dressings. Robert not only shared their ambitions, but had a strong drive of his own. All three left Seabury & Johnson.

Partners Mead and James formed Johnson & Johnson in December 1885. Half a year later they had a plant going



E. Mead Johnson Jr. left a well paying job to help his dad with sales and promotion.



Lambert, Johnson's second son, formulated infant food while still studying at Cornell.

in New Brunswick, N. J., with Mead managing the business end in New York. In a few months Robert, having settled accounts with Seabury, was free to join his brothers.

The new firm prospered by filling a need, by maintaining high standards of quality, and thereby earning the confidence of the profession. It clearly mirrored the traits of the founders. Besides medicated plasters and surgical dressings, J & J produced adhesive tapes, ligatures and sutures, soaps, disinfectants and baby powder.

E. Mead Johnson looked with favor on the addition of a line of pharmaceuticals, perhaps more so than Robert and James, and he instigated the formation of subsidiary companies to produce and promote them. He was particularly interested in papain digestants. These ferments from papaya juice were reported on in the journals by a J & J staff member, Dr. Frederick B. Kilmer, father of the poet, Joyce Kilmer.

Despite the steady growth of the New Brunswick company in the course of a dozen years, Mead Johnson decided to strike out on his own. Literally, not flippantly, he took a powder—papain—in a friendly arrangement with his brothers. In 1897, he sold his financial interest back to the company and put his energies into a previously affiliated firm, the American Ferment Company, which was making the digestants under the trade mark Caroid. From a rented building in Jersey City he carried on an enterprise that must have seemed strange to many businessmen in that heyday of

patent medicines. It was ethical.

Mead Johnson's policy was to promote his products exclusively to physicians, using no consumer advertising and putting no dosage directions on the packages. Evidence of this determination survives. In an agreement with an Arkansas doctor who provided a method of making an inexpensive sugar-splitting ferment, it was stipulated that marketing would be done "only through channels recognized as ethical by the medical profession and drug trade." In an agreement with a European agent, the latter was pledged to "make no attempt to exploit such articles through channels reaching the public."

The minute books of the company (American Ferment Company was incorporated in 1900) echoed Mead Johnson's circumspection *vis-á-vis* stockholders. Capital stock had been increased to finance the production of a new line, pharmaceuticals, which in turn required larger manufacturing quarters. He constructed a building for this purpose, on his own account, and set what he considered a reasonable rent; but before committing the company, he felt that although he was the principal stockholder, he should consult the new stockholders.

The corporate name was no longer descriptive of the business. Ferments constituted the lesser part of its products. Toward the close of 1905 the name was changed to Mead Johnson & Company.

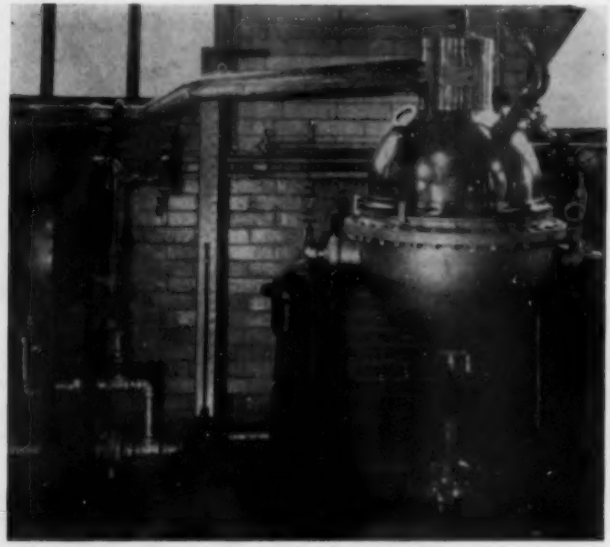
Like many early corporations, this was then essentially a family business, whose leadership was expected to pass from one generation to another. Mead Johnson had three sons. He enjoyed vigorous health, but was cautious, and in case the unforeseen occurred he wanted at least one of his boys to have a knowledge of the business.

His eldest, "Ted" (Edward Mead, Jr.), had been a sickly baby and had a heart condition. Of the younger sons, Lambert and James, the latter was not yet in his teens. Lambert was therefore chosen and taken out of school—but not for long. Ted's health improved and he, too, became eligible. And in the ensuing years Ted became a detail man, and Lambert a chemistry student at Cornell University.

Formulas In this period the general practitioner had little information to help him with the puzzle of infant feeding formulas, for the principles of modern scientific feeding were still evolving out of pediatric controversy. The company offered Dextrilactic Powder, a mixture of Caroid, other enzymes, and diastase. One day in 1911 Joe Quilligan, senior detail man, called in New York on Dr. Jerome S. Leopold. This turned out to be a momentous visit.

Dr. Leopold, one of the few specialists in pediatrics in the United States at that time, was in charge of the milk station of the New York City Milk Committee. After interning at Mount Sinai Hospital he made a tour of European centers and learned, particularly from Dr. Heinrich Finkelstein's clinic at the Berlin Infant Asylum, of work showing that maltose-dextrin was superior to other sugars for milk mixtures.

Dr. Leopold's own experiments convinced him that equal parts of maltose



Original equipment used to produce the dextrin-maltose food for babies. This still was turning out 50 pounds a day before it became obsolete.

and dextrin provided the proper carbohydrate addition to cow's milk. Back in this country he tried to interest manufacturers in making such a preparation. They didn't think it worthwhile. They were all using milk sugar or cane sugar, and they felt there would be no demand for the new thing. But Quilligan took Dr. Leopold's suggestion back to the home office.

Gruel E. Mead Johnson listened carefully. His thoughts went back to the terrible time Ted had had as an infant in being unable to tolerate food until Dr. Abraham Jacobi was called in and prescribed dextrinized gruel added to the milk. Mead recalled that the gruel was made by boiling wheat flour, cooling, and stirring with malt extract. His thought was, if the preparation proposed by Dr. Leopold could be made on a production basis for a low selling price, though malt sugar was costly, and if the profession accepted it, the company would have an important new product.

Son Lambert, home for the Easter vacation from Cornell, where he was studying for a doctorate in chemistry, was asked by his father to stay in Jersey City and formulate the carbohydrate. He did. In a month he succeeded in converting potato starch (a German import) into dextrin and maltose by diastasic action, and a week later accumulated five pounds. From that point on, the rate was five pounds every three days.

As fast as a trayload could be removed from the oven and packed in cartons, the substance was delivered to Dr. Leopold and his colleagues for trial at the Babies Ward of the New York

Post-Graduate Hospital. They took poorly developed infants off cane sugar and substituted the new preparation. Gains in weight resulted. They restored cane sugar, and the infants lost weight; again substituted the new preparation and again observed general improvement. Toward the end of 1911 clinical reports began to appear in the journals.

Faith Here was the genesis of a preparation whose original form continues to this day. It was promoted only through the medical profession, and this policy, approved by the pediatric group at Post-Graduate Hospital, contributed largely to its success. A booklet, "Simplified Infant Feeding," was part of the campaign to reach physicians.

But it took time for the product to catch on. Without E. Mead Johnson's faith in it, it could not have gone far.

Lambert stayed on, supervising production and gradually raising output from 50 to 250 pounds a day by 1914. Ted traveled for the company in the South—it was in San Antonio he met the girl who was to be his wife—and that year he accepted a challenge from Johnson & Johnson to build up its suture department. He then divided his time between the two firms.

Ted's marriage to a southern belle was a case of following in his father's footsteps. His mother was the southern-born daughter of a Frenchman who had served in the Confederate Army before coming to New York to join the faculty of Columbia University. It was in New York that E. Mead Johnson met her, and as he was something of a gourmet,

Old photo shows Mead Johnson booth at the AMA convention held in Atlantic City in 1912. This was the first technical exhibit of company's dietary product for infants.



the notion of fried chicken plus the art of French cooking must have appealed to him.

The elder Johnson walked the two miles from his Jersey City home to his office to work off gastronomic excesses. On these walks he sometimes rehearsed conversations he would hold in the office and became so absorbed that he gesticulated on the way. Much was on his mind, both personal and business problems. His wife was seriously ill. The company required larger manufacturing capacity and cheaper fuel. War had broken out in Europe and the blockade of Germany cut off the starch supply.

Midwest For a domestic source of starch he decided on corn. He reached the decision also that the factory should be moved to the Midwest, where it would be close to the source and centralized for economical distribution of manufactured goods. In the spring of 1915 he set out to seek a site, having in view the largest space possible at the lowest cost. And he found it, an old cotton mill on 11 acres in Evansville, Ind., a city on the lower reaches of the Ohio River. It had dynamos for electric power and answered all the other requirements. The purchase price was $50,000—more cash than the company possessed.

It was a courageous move. E. Mead Johnson was 63, an age at which not many men would take such a bold step. But he had confidence. It was also an expensive move. The dismantling of the Jersey City plant, the remodeling of the new one, and the purchase of additional machinery cost more than had been anticipated.

Lambert put the new premises in shape for production in May, 1916. He had attended to the incorporation of the business as an Indiana concern and was its secretary. Although Lambert was shy by nature, he was not long in becoming acclimated to Evansville, getting help in this respect from a local miss who later became his wife.

Ironically, the year of high hopes in the company's fresh beginning marked also the passing of Mrs. E. Mead Johnson, Sr.

Anxious Time The first few months of operation in Evansville were an anxious time. Expenses overshot sales. And when business picked up in 1917, additional capital was needed to finance the larger volume. Mead's brother James in New Brunswick came through with a loan; Miss Helena Dalton, a longtime friend of his late wife, lent some of her savings from the dress shop she ran in New York.

Even so, the breach was not filled, and the company sold out its rights in Caroid and other ferment products to its Canadian agent, J. Howard Cummings, who revived the name, American Ferment Company. Increased overhead and the higher cost of raw materials incident to the war impelled E. Mead Johnson to propose at the January 1918 meeting of the board of directors that inasmuch as the company could not afford to pay him his $10,000 salary as president, he would take a cut in half, retroactive to January 1917.

Thus they went through the war years, years of growing pains. Mead had Lambert at his side. His youngest son, James, was in France, having joined

the LaFayette Esquadrille after completing an arts course at Cornell. The war over, James chose to remain in Paris and married there.

Business troubles, however, were not over. Bonds held by a bank as payment for real estate were in default, and in 1920 foreclosure threatened. It was only a matter of $20,000 but the sum was not easy to raise. The help of friends and family finally pulled the company through.

Pull Together The same year, Ted came back to do a full-time job. He had gained valuable experience at J & J and made a brilliant showing for their "catgut" division. He sacrificed a well-paying position because his father needed him. Ted felt that the family should pull together.

And pull he did, for he infused new life and imagination into the promotional efforts and sparked diversification of the company's products. He took charge of direct-mail literature and journal advertising, and soon became sales manager. One of many service items distributed by the company was the "Feeding Calculator," which enabled general practitioners to figure out formulas for a host of individual situations.

In a couple of years the company was prospering. Production, sales and profits made remarkable gains. Manufacturing costs were reduced by installing more efficient equipment. "Life," said E. Mead Johnson, who was beginning to be called "Pop" around the plant, "begins at seventy." From this time on he was contented with his accomplishments.

A Mead Johnson fishing station at Bay Bulls, Newfoundland. Stations such as this were established in the mid-twenties to collect and extract cod liver oil for processing.



Ted was a leavening, pioneering force. He instigated the setting up of a pilot plant for producing a new kind of reconstructed milk, following which a milk factory was acquired in Zeeland, Mich. His interest in cod liver oil, which until then had been sold unrefined, led to the introduction of a product of standardized potency. For this the company established oil rendering stations in Newfoundland and supervised the product all the way from fish catch to pharmacy shelf.

Research Mead Johnson & Company had only three chemists in 1923, working in a room 20 x 40 feet. The next year a laboratory building was constructed, with space and equipment for a staff of researchers. Dr. Charles E. Bills of Johns Hopkins University became the company's first research director. Dr. Bills had been experimenting on vitamins, work that meshed with Ted's idea to sell oil assayed in vitamin D. This led to Mead Johnson & Company's work with synthetic vitamin D and with vitamins A and D from natural fish liver oils.

Ted's heart couldn't stand the strain of an overactive life. He suffered a stroke. His brother James, who had come back from France at his suggestion in 1920 and was successively purchasing manager and company secretary (Lambert became executive vice president), was temporarily made sales manager. When Ted felt well enough to return to work, James resumed residence abroad. Two years later, in 1930, Ted died at the age of 42.

Growth E. Mead Johnson saw the company increase in size and scope, and maintain a pioneering tradition under the capable management of Lambert. He took satisfaction in knowing that his voluntary ethical marketing policy was serving the profession and the public.

His broad interest in humanity found outlets in philanthropic and civic benefactions. In Evansville he donated the Public Health Center and supplied it with baby food to be issued at its clinic without charge. He invested $500,000 in the construction of a waterfront terminal to help the city grow as a transportation center.

E. Mead Johnson lived until 1934, a few months short of his eighty-second birthday. He saw the introduction of the company's special cereal products but not the later achievements in phormaceuticals and parenterals.

His son Lambert guided the organization for the next 21 years to greater growth. And ultimately the third generation of Johnsons kept faith. D. Mead Johnson, Ted's son, is president, and Lambert D. Johnson Jr. directs the company's international operations.

NEXT MONTH | *The story of William S. Merrell, who founded a business on unshakable ideals and $200 in capital.*

Certainty generally is an illusion,
and repose is not the destiny of man.
JUSTICE OLIVER WENDELL HOLMES, JR.

Family Doctor to Resident

Reversing the usual pattern of training in youth, practice in age, the author gave up successful general practice to take a residency.

FORREST H. HOWARD, M.D.

The Lankenau Hospital of Philadelphia, so my Lankenau beer mug tells me, was incorporated April 2, 1860. However, hospital authorities say it was in October 1860, that the Pennsylvania legislature granted a charter to the "German Hospital of Philadelphia."

Here, in the early 1800's, displaced persons of German extraction could come for treatment by competent physicians who spoke their own language.

Probably the most famous personage, medically, in this institution (in Philadelphia they pronounce it "in-stee'-tution") was Dr. John B. Deaver, the originator of the Deaver Retractor, and the originator of the Deaver incision for appendectomy. Many well known and learned physicians are ex-interns and residents here; among them is Dr. John B. Hirst, Professor of Obstetrics and Gynecology in the Graduate School of the University of Pennsylvania. Dr. Hirst tells his classes each year that Dr. John Deaver was the greatest surgeon of modern times, if not of all time.

Still Walks During World War 1, the name of the hospital was changed from the German Hospital to the Lankenau Hospital, in honor of Mr. John D. Lankenau, who was the president of the Hospital Board from 1868 to 1901. Mr. Lankenau, like Mr. Lincoln in Springfield, "still walks" in the Lankenau Hospital, although he died in 1901.

The traditions handed down by the German-speaking physicians give the institution somewhat the air of a relaxed, kindly, old-world university. Research is encouraged, but not forced on its residents. The staff, which is a closed staff, is as fine as there is in Philadelphia.

In this semi-academic atmosphere, I am the resident obstetrician-gynecologist. That's not so unusual, you may say, for many of the readers of this journal are residents in much older institutions with just as much tradition. However, my case does deviate from the usual. I was graduated from the University of Rochester (New York) in 1934. On my next birthday, I'll be fifty.

Specialty How does it happen that an individual of somewhat advanced age would come back after more than 20 years to take a residency? In a word, certification—and the pride that goes with it. The quickest way to become certified is to be a resident.

Then too, the body of medical knowledge is getting too complex to keep up with; to do a good job, a general practitioner must know more than my aging brain can contain. And since my training started out with obstetrics and gynecology in mind, it seemed logical to me to specialize in my original field. There is also the "Howard Obstetrical Table," about which more later.

Then there is the rest of my team, namely my wife. If she hadn't had the pride in me that she has, we wouldn't have quit our practice to attend the University of Pennsylvania Graduate School of Medicine for a year and then spend this year as a resident, with the hope of bettering ourselves.

A wife who will sell her home, live in a trailer, and then an apartment, and work nights as a private duty nurse—fellows, *there* is a wife. And she comes into the picture in connection with the table.

Then and Now The comparison of medicine in 1934 and now can never cease to amaze one who has been through it. I had practiced all those years knowing nothing of the Krebs cycle or cytochrome C.

Since my mentality absorbs things faster if someone tells me something than if I read it, a good bit of my keeping up with the medical world was through the detail men of the various drug houses. You will find them well informed about their products if they are from a good company. However, all failed to give me the scoop on cytochrome C.

Good medical meetings have also been part of my audio education. Reading MEDICAL TIMES, the *J.A.M.A.*, and a specialty journal will help you know what the future will bring in therapy, such as our present ideas of potassium, sodium and chlorides. (I remember one detail man trying to explain some of the modern concepts of fluid therapy to me, but I hadn't been primed.)

Getting back to 1934, after I had had my sheepskin handed to me by Dean George H. Whipple (he must have known about cytochrome C, but I don't remember his mentioning it), I spent a year in the University of Rochester Hospitals in obstetrics and gynecology. The resident was W. T. Pommerenke, and Willard M. Allen was an assistant resident. George Heckel of Rochester and Dave Collison of Vancouver, B. C. were fellow interns.

We relied on transfusions for the treatment of puerperal sepsis, Stroganoff treatment for eclampsia, and something new—fever therapy—for the gonococcus. We sent our luetics to a medical clinic for block therapy of heavy metals.

As I recall it, the professor did two total hysterectomies that year, but numerous subtotals. We had lots of pelvic abscesses and lots of clean-out jobs of the pelvis as an aftermath of pelvic inflammation, either from gonorrhea, post-abortal or post partum. The professor did one "low cervical" section, but looking back I think that this particular section would now be classed as a low classic with advancement of the bladder.

Income Having in mind that I wanted to be well trained, for my next year I applied for and got the surgical

pathology residency at the University of Colorado.

This was in 1935 when things were really tight money-wise. The depression had been going on since 1929. My second child was born in Denver. I felt a man with a family shouldn't be monkeying around moving all over the country for residencies, unless he owned an oil well or two. So, the plunge into the private practice of medicine "for a year or two until I got enough money."

I started in as assistant to a plastic surgeon in Colorado Springs, Colorado, at a salary of $100 a month and what I could collect from private practice. My first patient was an addict who paid me $2 for an office call but left disgusted because I had no narcotics license. I had the $2 though—and promptly used one of the dollars to acquire a narcotics license.

Since the money wasn't pouring in as I had hoped it would, I moved to Pocatello, Idaho, which is my home town. My ex-wife didn't like the town, so after looking over the situation in Idaho, I settled in Shoshone, Idaho, where I agreed to buy a physician's practice for the price of his real estate. A contract was drawn up and signed. Part of the agreement was verbal. (I later found out that a verbal contract is valid only if there is no written contract.) The doctor and I let each other off the hook, however, and later he sold his real estate to non-medical people.

I began to do well financially, and built a combination home and office. It was from this place that a Mexican woman called me after she had been in labor for 36 hours. While I was explaining to her husband that the baby was dead, and that she would have to go to the hospital and have a Caesarean section to deliver the child, the woman got up out of her bed, walked to the corner of the room, and started straining as if she were in the second stage of labor. She was.

She delivered the stillborn fetus while squatting just like my little boy on his potty chair. I then recalled Professor Karl M. Wilson's remarks to our medical school class when he said that the physiologic position for delivery was the squatting position. The idea that there might be some benefit from that position gradually penetrated my thinking. It took considerable time before the next step was made.

Lighter Side The practice of medicine always has its lighter side. Quite often this has to do with the sayings of the kids with whom we come in contact. One of my favorites concerns a four-year-old whose mother was about to present him with a younger brother. When the tyke awakened in the morning, he was amazed to see the doctor there. He demanded an explanation from his dad. Dad took him on his lap and started giving him the facts of life, with especial reference to his mother. Finally, the lad, who had always lived on the farm, looked up, and with sudden understanding said "Oh! I see, Ma's going to come fresh!"

One of the harder things to learn is that you really don't know some things. While I was in general practice, one of my psychotic patients was brought before a judge to be committed. She listened while the body of evidence was developed. Finally, the judge turned to her and said "Madame, have you any explanation for your actions?"

"Yes," she replied.

"Well, then, how do you explain this behavior?" the judge asked.

"When I was 9 years old, in 1926, I was raped," she said.

Said the judge: "And would you know the man who did it?"

"I'd know him anywhere," she proclaimed, "that's the man there, Dr. Howard."

So is confirmed the age of specialization. That would drive anyone into Ob.

Also during my stay in Shoshone, I ran afoul of the greatest danger to the practice of medicine today. Shoshone being a rural area, many of the farmers were financed by the Agricultural Adjustment Act. The government would lend the farmer enough to make his crop, take a complete mortgage on his land, his crop, his personal effects. He couldn't sell anything without the signature of the AAA supervisor, nor could he sign a check without the check being countersigned by the same man. They had his whole budget figured out for him. They didn't seem to be able to figure out what he should have for medical care, however.

Proposition An AAA social worker came to my office one day, and placed these facts before me: "There are 120 families in this county who are financed by the Agricultural Adjustment Act provisions, and we have put into each of their budgets $40 for their complete medical care for a year. All these people want you to have their business and this money."

What would I have to do for this $4800?

It developed that I would have to provide complete medical care, pay their hospital bills and drug bills. If they needed a specialist's care, I would see that they got it and pay the specialist. I'm not that stupid; naturally, I refused.

Then came the threat. "If you don't take this proposition, we will bring in someone who will take it, and you'll probably lose much of your other practice to this competitor." I still refused. It still rankles me that my own country, my native state, the country that my people have been free in since before the revolution, would put such a proposition to anyone.

In 1941, I applied for and received a commission in the Navy Reserve. I really didn't expect to use it, but December 7, 1941 proved me wrong. In March, I began my active naval duties in Bremerton, Washington. Instead of being shipped to sea fairly soon, I was gradually shipped eastward. By June, I was at the Great Lakes Naval Training Station. In September, I was still there. A psychiatrist at Great Lakes remarked one evening "Howard, how does it happen that you're not on a destroyer?" "Why, doctor," I replied, "confidentially, the Bureau sent me here to check up on you." The man melted; he never would talk to me after that.

In order to overcome the boredom of dispensary life at Great Lakes, I again took up the armchair philosophy of the physiologic position for delivery.

I wrote an article on the squatting position for delivery, showing that it was the physiologic position. While in the process of preparing the article, it occurred to me that this delivery position must also be best for the infant; it quickly became obvious to me that the physiologic position was indeed easier on the merging child. Pressure on the whole fetus develops pressure on the brain in the cerebro-spinal fluid. The brain sinks, just as it would in a Cartesian Diver experiment. Things seemed to fit. The article was accepted for publication in the U. S. Naval Medical

Bulletin. (It was not published, and I am informed that it subsequently has been lost. I have my copy and the correspondence.)

This did accomplish one thing. I was placed on duty with dependents' care from then on.

While in service, my first wife and I broke up. After being discharged, I started back to Shoshone, but spent some time with my parents in Pocatello. People wanted me to stay, wanted me to take care of their pregnancies. So I stayed and prospered. My wife and I met in 1946 and we were married in 1948. She is an R. N.

First Chair Shortly after we were married, I showed her my paper on the squatting position. She exclaimed, "you really have something here, boy!"

It took us a year to get the first table built. We didn't know how to go about it. Finally I took my idea to a local heavy machinery manufacturer and he built something out of ⅜ inch boiler plate steel. It had an impossible jack, was so heavy that the nurses could scarcely push it around. It did prove one thing: you could deliver a patient on a table, with the patient in a simulated squatting position, under a block anesthesia. Precautions were necessary.

About 25 mothers delivered on that chair, clumsy as it was. Most of the patients were given a low block anesthesia, a vaso pressor, and after the blood pressure had stabilized, they were put in a lithotomy position; the back of the table was elevated to the vertical, automatically placing the patient in a squatting position.

We are evolved through the ages to eat with our mouth. Certain safety factors are built into this process. For example, if we get appendicitis, we don't eat, thereby putting the bowel at rest.

This is a crude analogy; yet there must be a similar safety factor involved in the physiologic position. There is. If we were evolved to be born in the squat, then it is the safest for the being-born infant. The improving factor is the force of gravity. If this force were merely a simple dragging force on a hunk of a solid, then surely, to protect that hunk of solid, our mothers would bear us towards the zenith in order to avoid too much tumult in the bearing.

But we are not a solid; fluid is interposed in and around us as we are transported from our inward sea to the outer air. So, hydraulic mechanics comes into the picture.

These features are expounded in papers under my signature in *Northwest Medicine* in 1951, 1953, and the *Western Journal of Surgery, Obstetrics and Gynecology* in December 1954.

New Table My wife pointed out to me that the table I was using was too heavy; one could be built that would be mobile, light, and make it unnecessary to lift the patients on and off carts and beds. Thus, it could be used to give the anesthetic, proceed with labor, and when the patient is stabilized blood-pressure-wise, the back would be elevated. Delivery completed, the patient could be transported back to her bed in the maternity floor; it would be necessary to lift her only once, from the table to her bed.

It took time for me to admit that my petite wife, who looks not at all like a mechanical designer, could improve on my boiler-plate table. Finally, not having the inclination to take time off to supervise such a venture, I consented to having her design and direct the con-

struction of a light table. This was a most fortunate decision. She had designed and constructed two tables which we used in our two hospitals in Pocatello. They do the job we set out to do, perfectly.

We still need a jack; when we find someone who will build one to my wife's design, we'll have our perfect delivery table.

(I'm now convinced that women are much better mechanics on things that count. Hospital machinery which has to be used and moved by women should be designed by women.)

We took our table to Chicago in December 1954, to be in the Scientific Exhibit at the meeting of the American Committee for Maternal Welfare and the American Academy of Obstetrics and Gynecology.

It was received graciously by most, but very few converts were made.

I suppose that this conservative bit of radicalism is regarded as a bit of the cracked pot.

But you can't overcome the idea that if it's physiologic, it's best for the normal delivery. I like to keep a normal delivery really normal.

After we returned home, we decided that I really must complete my training and become board eligible.

Hence, we gave up our practice to attend the University of Pennsylvania Graduate School of Medicine. Dr. Kimbrough, the professor of Ob-Gyn, has been most gracious to us. Dr. Ross B. Wilson, chief of Ob-Gyn at Lankenau, kindly took me under his wing as his resident, and here we are.

So, my being a resident in my fiftieth year of life is something not simply explained; yet, as you can see, it is primarily the result of a crusade of a personal nature which comes, I suppose, to each of us in one degree or another.

I am fortunate that I have been able to pursue mine.

Those who get their training early in life are also fortunate. However, I can't say I would trade my hard way for their hard way. This has been fun.

Also, had I received my specialty training before my thirties, I doubt if I would have had an opportunity to learn of the physiologic position from that Mexican mother who, many years ago, sparked my interest in the subject, an interest that has grown stronger with the passing years.



Prepared especially for Medical Times by C. Norman Stabler, market analyst of the New York Herald Tribune

INVESTING

for the Successful Physician

1959 SALES RISE SEEN

We are near enough the turn of the year so that business leaders, at the behest of investors, are already being called upon to tell us what they see in the crystal ball for 1959. They are optimistic, indeed almost unanimously so, but they add one hedge.

That is, they don't want to be held to the accuracy of their predictions if international affairs become more strained. A major armed conflict would cause a reshuffling in industry, and no one can say what would be the repercussions.

Otherwise optimism rules, and it is encouraging that among those who paint the future in its brightest hues are executives of companies, and industries, that had to bear a heavy share of the setback of 1957 and the larger part of this year.

At a recent meeting of the National Industrial Conference Board, called to discuss marketing, the business leaders were most outspoken. Bryan J. Nichols, vice president for sales, of Chrysler Corporation, forsees a 20 percent gain in new car sales over this year's expected 4,600,000 cars. He went further and said the improvement could amount to 30 percent, which would mean a total of 5,980,000 cars, of which about 400,000 would be imported.

Logan T. Johnston, vice-president of Armco Steel Corp., believes steel demand next year should total 108,000,000 tons, which would result in operations at about 75 percent of capacity. The Armco executive said that from the peak of the boom last year to the low point last spring, total industrial production fell 12 percent while steel production dropped 38 percent. Manufacturers are now rebuilding steel inventories which had gotten too big and which accounted

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for the correspondingly greater drop in steel operations.

Textile and machine tool executives took the attitude that their industries had no where to go but up. Charles F. Myers Jr., treasurer of Burlington Industries, Inc., based a prediction of a 4 to 5 percent gain in unit sales of textiles on an "accumulative effect" of pent-up demand "due to probable completion of inventory liquidations in textile 'pipe lines.'"

J. G. Jiminez, vice president of Tidewater Oil Co., said concerns in his industry would have to resort to the "hard sell" and tight control of spending in order to provide stockholders with a fair return on investments.

Joseph Zimmerman, editor of "The Daily Metal Reporter" said if nonferrous metals producers had cut production sooner than they actually did, a far faster recovery would have resulted; even so, higher prices will likely be charged for some metals in 1959, he said.

W. Ward Jackson, vice-president, Commercial Solvents Corp., who spoke for the chemical industry, said he expected profits in his industry would improve, but at a much slower rate than sales.

A MENTAL INVENTORY

Everyone is periodically worried about inventories in industry. But no organization ever compiled figures on our mental inventory. Now it is going to be done.

Perhaps that statement is not strictly accurate, but in Philadelphia the American Academy of Political and Social Science, headed by Dr. James Charlesworth, professor of political science at

the University of Pennsylvania, is going to attempt something of that nature. The study will attempt to gauge the nation's personnel requirements for the next decade in the cultural, spiritual, scientific, social, economic and military fields. That's quite an assignment. When completed the aim is to channel existing talent into the areas where it is most needed so that our national development may reach its fullest potential.

"We plan to bring together about 20 of the top people in the country in the education, business, scientific and professional fields to discuss this national personnel policy," explained Dr. Charlesworth.

"Once a qualitative manpower study has been made," he said, "we will then seek a means of balancing the available supply to carry out the national objectives that have been defined by the conference."

To undertake the project, "staffing freedom," the Academy has a $10,000 grant from U. S. Senator Joseph S. Clark (D.—Pa.) who received it as part of the Philadelphia Award he won in 1956 for advancing the interests of the city.

Dr. Charlesworth said the men invited to make the study will be "those who know American society as a whole," without any set prejudices regarding the impact of their own specialties on the economy.

The information set forth herein was obtained from sources which we believe reliable, but we do not guarantee its accuracy. Neither the information nor any opinion expressed constitutes either a recommendation or a solicitation by the publisher or the authors for the purchase or sales of any securities or commodities.

PROLONGED
VASODILATION

for chronically
cold hands and feet
due to low-grade
vasospastic disease

RONIACOL
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1. direct vasodilation
2. drug tolerance rarely develops even with long-term use
3. especially suited for older patients

ROCHE—Reg. U. S. Pat. Off.

RONIACOL®—brand of beta-pyridyl carbinol

ROCHE LABORATORIES
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CHRISTMAS, EX-VICUNA

Gifts by corporations to favored customers amount to a major item in the business plans of manufacturers of various desirable items. The trade publication "Sales Management" reports that more than 75 percent of the corporations in the United States expect to spend more on Christmas gifts this year than last, judged by a survey it made of the intentions of 847 companies.

We understand not a single one of the 847 mentioned buying vicuna coats.

TAX SELLING IN PREFERREDS

With the approach of the end of any year the stock market always has to contend with a certain amount of liquidation that is based on selling for tax reasons rather than on more fundamental considerations. This year this type of selling is likely to be concentrated in preferred stocks.

The reason is that investors who happen to have good profits in some stocks and losses in others, wish to even up their accounts. Losses can be used to offset profits and thus reduce the individual's personal income tax.

In most cases those who bought preferreds in 1957 or 1958 have losses. Consequently their liquidation is an easy way to counterbalance profits that may have been taken in common stocks.

Preferreds have declined because of higher interest rates. Senior stocks of the major companies are just as sound as they were when they were selling many points higher, but their regular dividends are comparatively less attractive, now that the yield on bonds, and on all other debt obligations, has moved up. A regular dividend of $5 a share, for instance, looked very nice when money rates were easy; it lost much of its hue when this amount, or more, could be obtained through other media.

Even when the stock market made its new highs in October the daily list of new highs and new lows on the New York Stock Exchange showed a long list of new lows among preferreds

CONSTRUCTION CONTRACTS HIGHER

Contracts for new construction in the four months ended August 31 were the highest ever reported for a similar period, according to the regular compilation of F. W. Dodge Corporation. The firm said this demonstrated, in very positive terms, the resumption of the country's postwar growth trend.

Growth potentials are strong, Thomas S. Holden, Vice Chairman said, indicating continuing construction demand for some time to come. Recent improvement in private construction activity "is a particularly favorable factor."

He noted that August construction contracts in the United States totaled $3,466,576,000, an increase of 26 percent from the same month last year.

Contracts for privately owned projects in August were 11 percent above

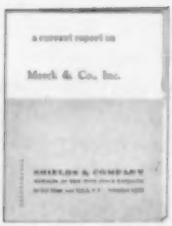
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may

MERCK

be today's outstanding buy in drug stocks?

We have just completed an up-to-the-minute re-evaluation of this outstanding growth stock. The Report details the key reasons why we believe that Merck is one of the strongest, most appealing growth situations in the fast-growing pharmaceutical field. For your free copy of this authoritative 12-page Report, mail the coupon below.

FREE BOOKLET DISCUSSES



DIURIL — One of the most exciting new drugs of 1958 — an oral diuretic which is also being used extensively by hypertensive patients — could command $50 million sales volume in 1959.

SILICON — A commercial plant for the production of ultrapure silicon, some forms of which will sell for $2,000 a pound, has just been completed and could make a significant contribution to company sales and earnings.

RESEARCH — A full-line pharmaceutical manufacturer, Merck has been averaging 10% of total industry expenditures on Research. A potent new steroid, **Decadron**, has already been announced for early 1959 marketing and other new products could be close at hand.

SHIELDS & COMPANY
MEMBERS OF NEW YORK STOCK EXCHANGE
44 WALL STREET • NEW YORK 5, N. Y.
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GENTLEMEN: Please send me, at no obligation, a copy of your report on Merck & Co., Inc.

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.....

a year ago although declines earlier in the year kept the total for the first eight months this year 3 percent below a year earlier, Dodge figures showed.

Contracts for non-residential buildings in August amounted to $1,078,938,000, up 7 percent from August 1957.

August residential building contracts totaled $1,450,576,000, a gain of 13 percent from a year ago. The August contracts covered 113,460 dwelling units, up 17 percent from last year.

Heavy engineering contracts at $937,062,000, showed a year-to-year gain of 78 percent.

For the first eight months this year, non-residential contracts were down 4 percent to $7,624,337,000; residential up 5 percent to $9,500,035,000; heavy engineering up 17 percent to $6,674,136,000, and total construction up 5 percent to $23,798,508,000.

THE COST OF INFLATION

It is difficult to measure anything as tremendous as inflation. But the Institute of Life Insurance has come up with a figure. It says creeping inflation has cost the American public $33,300,000,000 since 1954.

The trade organization reached this total by adjusting last year's gross national product—the value of the nation's goods and services—in terms of 1954 dollars.

On this basis the G.N.P. last year works out to 407 billion or $33,300,000,000 below the figure reported by the Commerce Department last year. The Institute said Federal, State and local governments have been hardest hit by inflation.

Since 1954, it reported, rising prices have represented more than 14 percent of total government expenditures, against less than 13 percent of capital expenditures or business spending and slightly more than 5 percent in personal consumption expenditures.

In its monthly bulletin "Money-Matters," the Institute said the loss in purchasing power over the four year period represents close to 8 percent of the nation's entire economic activity at present prices—or the equivalent of $1 out of every $13 of all current expenditures for goods and services.

"Here is proof of the hollowness of the contention that a 'little' inflation is desirable and necessary, and the price that must be paid for prosperity," it said. "It is obvious . . . that even a 'little' inflation has a big dollar cost in an economy the size of ours."

FIGURES OR HUMAN BEINGS?

What are the most important things to analyze in selecting an investment? Corporations, that are publicly held, make available a wealth of statistical material about their operations. In addition, virtually every industry has a trade association which compiles and publishes data on its own affairs.

The investment firm of Shearson, Hammill & Co., recently pointed out that behind the facts and figures lies a basic factor that is often more important



specifically designed to meet
the metabolic demands of convalescents
and patients on long-term therapy

new NOVO-BASIC

Squibb High Potency B-Complex with C for Maintenance

Each capsule-shaped tablet of NOVO-BASIC supplies:

Ascorbic Acid	150 mg.
Thiamine Mononitrate	5 mg.
Riboflavin	5 mg.
Niacinamide	50 mg.
Pyridoxine Hydrochloride	1 mg.
Calcium Pantothenate	10 mg.
Vitamin B_{12} Activity Concentrate	2 mcg.
Folic Acid	0.15 mg.

Dosage: One or more tablets of NOVO-BASIC daily as indicated.
Supply: Bottles of 60 and 180 capsule-shaped tablets.

NOVO-BASIC is designed to meet the *daily* metabolic demands of convalescents and those on long-term therapy for *adequate* supplies of B and C vitamins. These water-soluble vitamins are *continuously being excreted* and *must continuously be replaced*. NOVO-BASIC is also indicated in patients receiving prolonged diuretic therapy where vitamin loss can be excessive.

Prescribing NOVO-BASIC is an *effective* and *convenient* means of assuring that your patient gets these highly important vitamins daily—and in the quantities he needs. And with NOVO-BASIC your patient gets only *dietary* quantities of folic acid.

SQUIBB *Squibb Quality — the Priceless Ingredient*

'NOVO-BASIC' is a Squibb trademark.



Nopo figures (Central Vera Cruz, Mexico) Classic Period 300-700 A.D. courtesy Stendahl Art Galleries



Your vaginitis patients get relief from intense itching, burning and other symptoms within seconds... after their first Triva douche. And within 12 days, most cases of trichomonal and non-specific vaginitis are rendered organism-free (Monilia genus may require longer).

Triva has been used to treat more than 350,000 cases of vaginitis in the past five years. Reason: "seconds-fast" effectiveness and high rate of success. Administration: Douche, b.i.d., for 12 days.

Supplied: Package of 24 individual 3 Gm. packets Composition: 35% Alkyl Aryl sulfonate (wetting agent and detergent); 5% Disodium ethylene bis-iminodiacetate (chelating agent); 53% sodium sulfate; 2% Oxyquinoline sulfate; 9.5% dispersant.

BOYLE & COMPANY
LOS ANGELES 54, CALIFORNIA

Trīva

relieves vaginitis symptoms... within seconds!

than the cold figures themselves—the ability of management.

Trends in sales and earnings, balance sheets, cash flow, and dividend-paying ability are essential tools of security analysts, but the figures after all reflect the work of effective or ineffective management.

"Changes in top personnel have signaled a major turning point in the fortunes of many leading companies during the post-war period," the firm states. "Furthermore, these changes have provided exceptional investment opportunities for those astute enough to recognize them. Some outstanding cases where important changes in top management, with accompanying fundamental shifts in corporate policy, have resulted in improved earning power and handsome capital gains for the investor include Corn Products, Merck, Jones & Laughlin, Safeway Stores, Warner Lambert Pharmaceutical, Raytheon, Martin Company, International Telephone & Telegraph, Burroughs Corporation and Continental Can.

It adds that among major companies which had slipped badly, but which appear to have been revitalized by new executive personnel, are Allied Chemical, Ford Motor, United Artists Corp. and Westinghouse Electric, although the Allied and Westinghouse managements have not completely proved themselves as yet.

"Of course a change in management alone is no automatic guarantee that a company's fortunes will improve," the discussion continues. A highly regarded new president was unsuccessful in reviving the fortunes of Packard Motor Car Company, and the much publicized rejuvenation of Montgomery Ward has not been impressive to date. Furthermore, while corporate mergers frequently involve management changes, many of the most merger-minded companies have fared poorly in recent years. This has been true of such giant enterprises as Olin Mathieson and W. R. Grace as well as smaller but equally well publicized conglomerations like Penn-Texas, Textron, and Bellanca. In Olin's case, however a new top management organization may well reverse the recent adverse tide in the company's affairs.

A list of companies which have undergone recent important changes in top management and appear to have a good chance of increasing earnings is given by Shearson, Hammill & Co. below. Figures are as of early last month.

SHEARSON, HAMMILL'S LIST OF COMPANIES

COMPANY	EARNINGS PER SHARE FIRST HALF 1958	1957	IND. DIV'D.	POST-WAR PEAK EARN. PER SHARE	RECENT PRICE	1958 RANGE TO DATE
ATLAS POWDER	$1.66	$2.74	$2.40	$5.61	72	73—57
H. L. GREEN	NA	0.51	2.00	4.97	32	34—22
NEPTUNE METER	0.77	0.74	1.40	3.50	31	31—19
OLIN MATHIESON	0.74	1.48	1.00	3.38b	37	44—31
PHILCO CORP.	0.41def.	0.32	Stk.	4.86	22	22—12
RADIO CORP. OF AMERICA	0.86	1.35	1.50a	3.16	38	40—30
STD. OIL OF INDIANA	1.47	2.33	1.40	4.75	47	50—35
STEWART-WARNER	1.44	2.23	2.00	4.41	39	39—29

a) Includes extra

b) Only since 1953 because of merger







easier vitamin protection from infancy throughout the growth years

new 'Vi-Sol' tablets



Symbol of vitamin protection

Tri-Vi-Sol®
3 basic vitamins
drops · tablets

Poly-Vi-Sol®
6 essential vitamins
drops · tablets

Deca-Vi-Sol®
10 significant vitamins
drops · tablets

Now, you can select the 'Vi-Sol' vitamin level 3 6 10 *and form*

Your young patients will enjoy the delicious fruit-like flavors of the new 'Vi-Sol' tablets. Children take them by themselves—no need for messy teaspoons or swallowing with water.

Now . . . when you prescribe Tri-Vi-Sol, Poly-Vi-Sol or Deca-Vi-Sol, be sure to specify form: drops or tablets. New 'Vi-Sol' tablets are available in bottles of 24 and 100.

Your Mead Johnson Representative will be pleased to provide you with samples for your convenience in starting your patients on 'Vi-Sol' drops or tablets.

Mead Johnson
Symbol of service in medicine

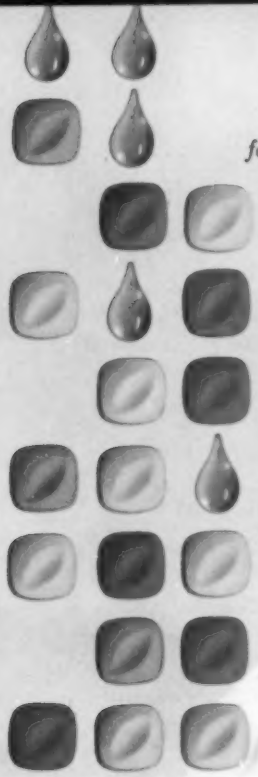


Mead Johnson
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Now . . . in soluble tablets, too
. . . and they taste delicious





for easier vitamin protection of infants and children



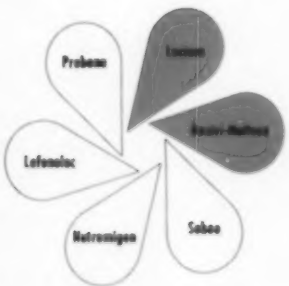
now . . . in soluble tablets too . . . and they taste delicious

Tri-Vi-Sol®	Poly-Vi-Sol®	Deca-Vi-Sol®
3 basic vitamins	*6 essential vitamins*	*10 significant vitamins*
drops · tablets	drops · tablets	drops · tablets

'Vi-Sol' tablets give you a new appealing dosage form for continuing vitamin protection of children.

3 out of 4 mothers who have children in the 'Vi-Sol' drops age have older children in the 'Vi-Sol' tablet age. These mothers will appreciate your prescription of easy-to-take 'Vi-Sol' tablets.

Mead Johnson
Symbol of service in medicine



feeding satisfaction through the formula period



To help in instructing mothers . . .

The leaflet *"Baby Needs Your Help at Feeding Time"* describes and illustrates points of feeding technic (without product mention). May be used by you or by the nurse in instructing your patients in the hospital. Your Mead Johnson representative will supply you, or you may write to us, Evansville 21, Indiana.

beginning with your discharge formula . . .

You satisfy baby's hunger as well as growth needs when you discharge on Lactum — modified milk formula proportioned and processed for good satiety and good tolerance in the normal dilution of 20 calories per fluid ounce.

From the first day at home, the mother can easily prepare this simple dilution as needed and, following your instructions, feed to satisfy her baby's appetite.

Lactum®
Modified milk formula, Mead Johnson
"instant" powder · liquid

Made from whole milk and Dextri-Maltose. Proportions based on widely used milk formulas. Homogenized and low in curd tension.

for satisfying milk formulas in your own proportions . . .

Dextri-Maltose®
Maltose-dextrins formula modifier, Mead Johnson
powder

"Professional" carbohydrate modifier — designed specifically for use in infant formulas.

and to help you with special feeding problems . . .

Mead Johnson therapeutic formulas and related services (see back of insert)

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250,000,000 *cans . . .*

produced with every care
to merit use with confidence

This golden can represents the 250,000,000th can of Dextri-Maltose produced. It symbolizes our appreciation to the medical profession for their advancement of infant nutrition and care in the past half-century. And with it we rededicate ourselves to continuing provision of the products and services needed for physician-controlled infant feeding.



Mead Johnson
Symbol of service in medicine

. . . for milk-sensitive infants





mothers will appreciate your prescription of

Sobee®
Hypoallergenic soya formula, Mead Johnson
"instant" powder • liquid

Both eczema and gastrointestinal symptoms of milk allergy are usually relieved promptly. Infants readily accept the pleasant bland taste.

With either Liquid or Powder, the mother can easily use the simple 20 cal./fl. oz. dilution to prepare any amount of formula needed to satisfy the baby's hunger.

For your convenience, the leaflet "Care of the Allergic Child" gives simple advice on general care . . . as well as space for your prescription of Sobee. Your Mead Johnson representative will be pleased to give you a supply, or write to us, Evansville 21, Indiana.

other Mead Johnson formula products to help you meet therapeutic feeding needs

***new*/Lofenalac**
low phenylalanine formula for patients with phenylketonuria

Nutramigen®
—hypoallergenic protein hydrolysate formula

Probana®
—high protein formula with banana powder, for use in digestive disturbances

Mead Johnson
Symbol of service in medicine

MODERATE, GRADUAL UPTURN SEEN

Dr. Marcus Nadler, consulting economist to The Hanover Bank, New York, is among those who thinks the immediate future will be marked by a moderate and gradual improvement and not by a boom. There is no single force in the private sector of the economy today that can bring about a sharp business upturn in the immediate future, he said in a thirty-two page study recently issued by the bank.

The upturn "will reflect the end of inventory liquidation, better demand for non-durable goods and services, increased purchases of goods and services by government—Federal and local—and expanded public works," he stated.

On the other side of the ledger, Dr. Nadler foresees a continuing decline in capital expenditures, the unlikelihood of a major housing boom, and no significant rise in durable goods production or exports.

"For some time the economy will undergo a period of respite and consolidation, accompanied by idle productive capacity and labor," he says.

When this period has run its course, the dynamic forces in the economy—particularly the rise in population and living standards, and the technological advances resulting from research—will push economic activity to levels exceeding those of the last boom, he continued.

THE SEARCH FOR INVESTMENTS

When the stock market scored its high for the year last month, and a number of averages, notably the Dow Jones & Co. compilation of leading industrials, went to a new top for all time, one of the explanations given was that there weren't sufficient sound common stocks to absorb the plethora of savings seeking investment.

That complaint has been heard before, in times of rising markets; when the list sinks, then no one complains there are too few stocks around.

Either way the market goes, however, it is apparent that American investors, especially the larger ones, are continually casting their eyes abroad, searching for sound situations that will yield a handsome profit. In most countries the going interest rates are higher than those in the United States.

R. L. Weissman, economist for the

Guide For Investors

Based on recommendations of the Securities and Exchange Commission in cooperation with the New York Stock Exchange, American Stock Exchange, National Association of Securities Dealers and others.

1. Think before buying, guard against all high pressure sales.

2. Beware of promises of quick spectacular price rises.

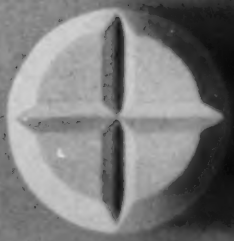
3. Be sure you understand the risk of loss as well as prospect of gain.

4. Get the facts—do not buy on tips or rumors.

5. Give at least as much thought when purchasing securities as you would when acquiring any valuable property.

6. Be skeptical of securities offered on the telephone from any firm or salesman you do not know.

7. Request the person offering securities over the phone to mail you written information about the corporation, its operations, net profit, management, financial position and future prospects.



this
sulfa tablet
works
24 hours
a day

MIDICEL reduces the hazard of blood level "fall-off" due to forgotten or omitted doses, common with multi-dose sulfa preparations. ***A single tablet provides continuous, therapeutic blood levels for 24 hours***—assuring constant bacteriostasis.

Midicel®

(sulfamethoxypyridazine, Parke-Davis)

A distinct advance in sulfonamide therapy, MIDICEL affords definite clinical advantages: ***1 tablet-a-day schedule***—greater convenience and economy for patients · ***rapid effect***—prompt absorption · ***prolonged action***—adequate plasma concentrations sustained day and night with 1 tablet daily · ***wide antibacterial effectiveness***—in urinary tract infections, upper respiratory infections, bacillary dysenteries, and surgical and soft tissue infections, due to sulfonamide-sensitive organisms · ***well tolerated***—low dosage and high solubility minimize possibility of crystalluria.

Adult Dosage: Initial (first day)—2 tablets (1 Gm.) for mild or moderate infections, or 4 tablets (2 Gm.) for severe infections. Maintenance—1 tablet (0.5 Gm.) daily. ***Children's Dosage:*** According to weight. See literature for details of dosage and administration. ***Available:*** Quarter-scored tablets of 0.5 Gm., bottles of 24, 100, and 1,000.

PARKE, DAVIS & COMPANY · DETROIT 32, MICHIGAN

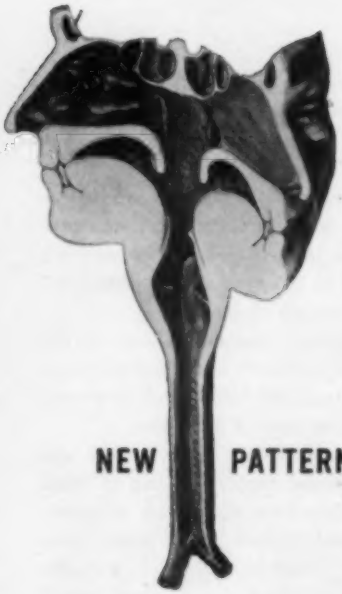


Latest advance in treatment of Sinus & Nasal Congestion

new

"KRYL"

"KRYL" provides rapid relief from the congestion as well as associated headache, fever, aches and pains of colds and allergic rhinitis — without depression — without stimulation.



NEW PATTERN IN SINUS AND NASAL DECONGESTION

ANTIHISTAMINE ACTION WITHOUT SEDATION

SYSTEMIC DECONGESTION WITHOUT SIDE EFFECTS

ANALGESIC-ANTIPYRETIC ACTION WITHOUT DRUG STIMULATION

ANTI-STRESS VITAMIN TO MAINTAIN TISSUE INTEGRITY

"THERUHISTIN" — Newest type of antihistamine for control of excessive nasal secretion and congestion — highly potent (92 per cent effective)[1] yet unusually free from side effects — *less than one per cent incidence of drowsiness.*[1-3]

l-Phenylephrine — Unusually long-acting *oral* vasoconstrictor[4] relieves nasal blockage, promotes better drainage — without local pathologic changes reported with topical agents. Relieves bronchial spasm.

Aspirin and Phenacetin — Analgesic-antipyretic synergists, to relieve fever, aches and pains. Freedom from antihistamine drowsiness obviates need for drug stimulants.

Ascorbic Acid — High levels of vitamin C aid in preventing nasal edema due to impaired vascular and mucous membrane integrity,[5] and replenish adrenal ascorbic acid reserves.[6]

new

"KRYL"

for symptomatic relief of colds, hay fever, and sinus congestion

Each tablet contains:

Isothipendyl HCl ("Theruhistin")	4 mg.
Aspirin	230 mg.
Phenacetin	160 mg.
l-Phenylephrine HCl	5 mg.
Ascorbic Acid	100 mg.

DOSAGE: Adults, 2 tablets initially. Thereafter, and until symptoms disappear, 1 tablet every four hours. Children (6 to 12), half the adult dose.

SUPPLIED: Bottles of 100 and 1,000 tablets.

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Ayerst Laboratories, New York 16, N.Y. • Montreal, Canada

5881

investment firm of W. E. Hutton & Co., makes an annual study on the flow of investment dollars to other areas. His latest one expressed the opinion that international investment seems destined to expand substantially, with far-reaching consequences.

He points out that without foreign capital the economic growth of the U. S. would have been much slower than it was, and quotes E. R. Black, president of the World Bank, that no free country has ever been able to develop a healthy economy and to realize its maximum economic potentialities without getting foreign aid.

Private American investment abroad currently totals $33 billion and U. S. Government foreign investment, $16.5 billion for a total of $49.5 billion. These figures compare respectively with $16.3 billion, $13.1 billion and $29.4 billion in 1948.

Of the $33 billion U. S. private investments, direct investments amount to $22.1 billion, against $14.7 billion in 1948. These direct investments are represented most frequently by subsidiaries of American companies.

Mr. Weissman says no one can expect American investments abroad to equal the British in the halcyon Victorian era when half of Britain's savings was flowing into foreign channels.

If American investments were on the old British basis, we would have foreign investments of $60 billion and an annual income from them of $1 billion.

Back in the 1920's, U. S. money was flowing abroad rapidly. Many of those foreign loans were ill-advised, he notes. Britain and France made some poor ones too, "a number of which were the result of politics overcoming sound finance."

Presently, our investments abroad are largest in Western Europe, followed by Canada and Latin American Republics. The present total compares with $17 billion in 1929.

THE FEMININE INFLUENCE

If you happen to enter a millinery store or a specialty shop a year or two from now you may hear a conversation something like this:

"Mary, I'm sort of worried about that change in the discount rate and the upping of margin requirements. Do you think I should sell my XYZ shares?"

"Not necessarily, Mabel. The company has a liberal depreciation policy that gives it a good cash flow and there has been a net gain in its working capital position for the last three years. Its price/earnings ratio looks a bit toppy but you must remember it displays a long-term growth potential."

This, we gather, is quite within the realm of probability. It will happen if the Association of Bank Women has its way.

The head of its program, for the enlightenment of women on financial matters, is Mrs. Dorothy Nobel Smith, assistant manager of a branch of the Chemical Corn Exchange Bank, in New York City.

The program will reach women in New York State through TV and radio programs and will feature talks and films before women's groups and adult education classes. It is sponsored by the New York State Bankers Associa-



TRANQUILIZER OF CHOICE IN PEDIATRIC PRACTICE

for ***'round-the-clock,*** sustained relief from tension symptoms—sleeplessness, irritability, apprehension, headache[1]—on q. 12 h. medication

Meprospan*

meprobamate (Miltown®) continuous release capsules

Found "most useful and least toxic" in a pediatric study of four widely prescribed tranquilizing and relaxing agents.[1]



- acts uniformly, day and night
- effective in reduced dosage
- capsules may be opened and coated granules mixed with food

exceptionally safe/extremely convenient



Dosage: According to age.

1. Baird, H. W., III: A comparison of Meprospan (sustained action meprobamate capsule) with other tranquilizing and relaxing agents in children. Submitted for publication, 1958.

*TRADE-MARK

WALLACE LABORATORIES, *New Brunswick, N. J.*

tion and is designed to serve as a model for similar programs in other areas.

The procedure is to contact women's organizations in various cities and volunteer to lead discussions on subjects such as investments, the drawing of wills, what determines interest rates and other banking subjects.

THOSE BUILT-IN STABILIZERS

The emergence from the 1957-1958 recession means that our economy successfully withstood its most severe trial of recent times. "Investors Advisory Institute, Inc.", a subsidiary of Forbes, Inc., believes it is particularly significant that this reversal was achieved through the healthy workings of our self-sustaining economic system, motivated by such factors as renewed consumer interest in durable goods, rising construction activity, improvement in inventory position and a pick-up in capital expenditures.

The service lists the following five companies which it recommends because it believes they "will be among the front-runners in the resurgent and expanding economy in future years, affording long-term capital appreciation." Figures are as of the closing days of September.

ONE COMPANY'S SELECTIONS

COMPANY	RECENT PRICE	1957 (Millions) NET SALES	1957 (Millions) NET INCOME	Per Common Share 1957 EARNINGS	Per Common Share IND. DIV.	Per Common Share % YIELD	1958 PRICE RANGE HIGH-LOW
GENERAL DYNAMICS	58	$1,562.5	$44.3	$4.80	$2.00	3.5	65—55
HERCULES POWDER	47	245.3	18.1	2.12	1.10	2.3	49—38
KAISER INDUSTRIES	13	376.0	16.8	0.70	None	None	14— 7
PITTSBURGH PLATE GLASS	76	620.8	58.0	5.86	2.20	2.9	81—67
SCHERING CORP.	42	80.7	15.4	3.80	1.20	2.8	45—32

NO AUTOMATIC CURE-ALL

Understanding of America by foreign nations will never come from gifts alone . . . nor are gifts as such likely to induce the requisite qualities of energy and willingness to bear change, declares David McCord Wright, internationally known economist, in Indiana University's "Business Horizons."

The author is currently William Dow professor of economics and political science at McGill University. He discounts foreign aid as an automatic cure-all for the spread of communism and contends that certain "preconditions must exist before successful development can take place."

He listed these "preconditions" as: energy and determination needed to overcome resistance to change; incentive to promote economic development, and management capable of wisely investing financial aid.

The author "heartily" believes in economic assistance to less fortunate



Salimeph-C*

SALIMEPH-C, specially developed for relief of the pain-spasm-pain cycle in musculo-skeletal disorders, exerts a powerful ACTH-like action without its undesirable side effects.

SALIMEPH-C's active ingredient, like ACTH, acts on the anterior pituitary and the adrenal cortex. Both exert antipyretic, anti-inflammatory, and anti-rheumatic effects.

BUT HERE THE "KINSHIP" ENDS

SALIMEPH-C produces *no* hypertension, *no* hirsutism, *no* edema, acne or psychotic reactions or other side effects common to ACTH and CORTISONE therapy.

In the SALIMEPH-C formula the anti-rheumatic action of Salicylamide is coupled with the profound skeletal muscle relaxant, Mephenesin. Generous quantities of Ascorbic Acid replenish the Vitamin C lost during debilitating diseases and anti-rheumatic therapy.

SALIMEPH-C rapidly relieves the pain which causes the spasm and relaxes the spasm which causes the pain in rheumatoid arthritis, myositis, torticollis, bursitis, low back pain, osteoarthritis, sprains and strains.

*Trademark Kremers-Urban Company

FORMULA:
Each yellow, scored tablet contains:
Salicylamide.....250 mg.
Mephenesin.....250 mg.
Ascorbic Acid..... 30 mg.

Prescribe with Confidence

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Ethical Pharmaceuticals Since 1894

nations, but added: "Instead of blindly pouring billions into (such) underdeveloped countries, we should first do what we can to ensure that the necessary preconditions are there."

He also suggested a program of education—"receiving at least as much emphasis as direct aid"—to develop these vital conditions.

Growth is never an automatic process, Dr. Wright continued. "To translate the vague desires of the underdeveloped nations into constructive action rather than mere envy, a clear statement of the conditions needed for social development is essential."

Questions and Answers

Inquiries are received from a number of investors asking for information regarding specific securities. The following answers are based on reports obtained from recognized analysts and represent their considered opinion:

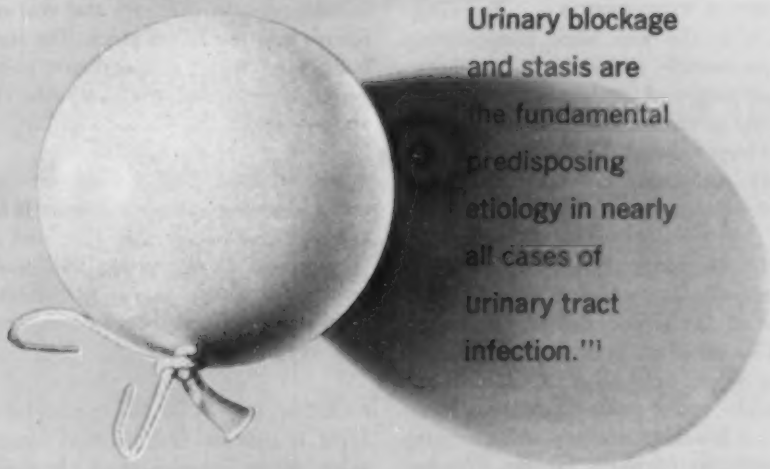
EVANS PRODUCTS—There have been indications the stock has been under accumulation. It has displayed an ability in the past to make sharp moves and thus has a wide following in the stock market.

PHILIPS INCANDESCENT LAMP WORKS—This Dutch controlled concern has enjoyed an impressive recovery since the war and sales over the last few years have shown a steady increase. The market places a fairly high valuation on its shares but this is because of its growth characteristics and the bright outlook for its future.

SCHENLEY INDUSTRIES — Along with other distillers it is benefiting from the recent extension of the bonding period for liquor. Schenley is particularly favored in this respect as it holds one of the largest stocks of aging whiskies in the industry.

HOFFMAN ELECTRONICS — A speculative issue that has a host of friends in the financial district, largely because, since the close of World War II, it has enjoyed a sensational growth. Between 1948 and 1957 its sales improved more than 700 percent and its profits per share from 44 cents to $2.25, or more than 400 percent. The company's president, H. L. Hoffman, forecasts a further upturn by 1960 and has a goal of double the present earnings by 1962.

OUTBOARD MARINE—It has been a sensation in the market in recent years but at the current rate of earnings the price of the stock appears to have amply discounted the immediate future.



in urinary tract infection when stasis is the basis

FURADANTIN®

brand of nitrofurantoin

"FURADANTIN is especially recommended for conditions where there is retained urine. . . . This is because the FURADANTIN is excreted in large amounts in the urine."[2]

AVERAGE ADULT FURADANTIN DOSAGE: 100 mg. q.i.d. with meals and with food or milk on retiring. SUPPLIED: Tablets, 50 and 100 mg.; Oral Suspension, 25 mg. per 5 cc. tsp.

REFERENCES: 1. Campbell, M. F.: Principles of Urology, Philadelphia, W. B. Saunders Co., 1957, p. 101. 2. Carroll, G.: Bacterial Infections of the Urinary Tract (Male), in Conn, F.: Current Therapy 1956, Philadelphia, W. B. Saunders Co., 1956, p. 301.

NITROFURANS—a new class of antimicrobials—neither antibiotics nor sulfonamides

EATON LABORATORIES, NORWICH, NEW YORK

MERRITT-CHAPMAN & SCOTT—The company has been successful in broadening its sales base. Recent earnings have not been favorable and we do not see an immediate sign of any great improvement.

SUNBEAM CORPORATION — Earnings early in the year were disappointing. More recently shipments to distributors have increased, indicating that inventories on dealers' shelves have at long last been reduced. Total sales and profits have recovered, indicating they may well equal last year's figures.

PHILLIPS PETROLEUM—This company deservedly has a host of friends. It is one of the largest domestic integrated oil concerns and is at the top in natural gas sales, production of natural gas liquids and liquefied petroleum products. It holds a strong position in petrochemicals. Earnings for the first half of the year were disappointing but the recent trend has been upward. It is a top grade investment stock.

NATIONAL DISTILLERS & CHEMICAL CORPORATION—One of the leading domestic distillers and becoming an increasingly potent factor in producing chemical products. Earnings for the first part of the year were sharply below corresponding figures of last year but improvement in later months indicates the year-end figures may not be off much. The stock has been selling at a conservative price/earnings ratio and the downside risk appears small.

FOOTE MINERAL CO.—A few years ago this was a most speculative issue. It has gained stature since that time and its management is aggressive. Its profits come from a wide variety of minerals, with about half the sales coming from AEC-supported lithium.

GILLETTE CO.—A strong point in its favor is that its capitalization consists solely of its common stock. It should earn about as much this year as it did last, which was $2.80 a share. Its financial position is strong.



COMPREHENSIVE CONTROL OF CONSTIPATION

PROVIDES SOFT STOOLS GENTLY STIMULATED TO EVACUATION

DOXINATE® with DANTHRON (Doxan)



— the original dioctyl sodium sulfosuccinate fecal softener combined with danthron, the non-irritating, non-habit forming laxative —

Comprehensive control of constipation with Doxan . . .

- ★ prevents fecal dehydration and gently stimulates the lower colon in functional constipation
- ★ synergistically provides, with a subclinical dosage, peristaltic action on a soft, "normal" intestinal content rather than on the hardened mass typical of constipation
- ★ results in soft stools gently stimulated to evacuation . . . and restores normal bowel habits

Doxinate with Danthron (Doxan) is supplied as brown, capsule-shaped tablets containing 60 mg. dioctyl sodium sulfosuccinate and 50 mg. 1,8-dihydroxyanthraquinone.

Usual adult dose: One or two capsule tablets at bedtime. Bottles of 30 and 100.

When fecal softening alone is indicated— Doxinate 240 mg.—provides optimal once-a-day dosage for maintenance therapy.

Doxinate is a registered trademark of Lloyd Brothers, Inc.

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CINCINNATI 3, OHIO

CURRENT STUDIES ON INDUSTRIES AND COMPANIES

Wall Street firms are glad to supply those who are interested with views on various industries and companies. You can do us a favor if you mention Medical Times as the source of your information. A partial list of such literature that has come to hand recently, follows.

SUBJECT	FIRM	NEW YORK ADDRESS
Lithium Corp. of America	John H. Kaplan & Co.	120 Broadway
Kayser-Roth Corporation	Hemphill, Noyes & Co.	15 Broad St.
Crowell-Collier Co.	L. F. Rothschild & Co.	120 Broadway
United Carbon Co.	Halle & Stieglitz	52 Wall St.
Schenley Industries	Oppenheimer & Co.	25 Broad St.
American Motors Corp.	Oppenheimer & Co.	25 Broad St.
National Distillers & Chemical	Model, Roland & Stone	120 Broadway
National Distillers & Chemical	Fahnestock & Co.	65 Broadway
Black, Sivalls & Bryson, Inc.	Herzfeld & Stern	30 Broad St.
Great Western Sugar Co.	R. W. Pressprich & Co.	48 Wall St.
Great Western Sugar Co.	E. F. Hutton & Co.	61 Broadway
American Express Co.	Emanuel, Deetjen & Co.	120 Broadway
Raytheon Manufacturing Co.	Amott, Baker & Co.	150 Broadway
Packard-Bell Electronics	Hayden, Stone & Co.	25 Broad St.
Eastern Stainless Steel Co.	Brimberg & Co.	26 Broadway
Budd	Courts & Co.	25 Broad St.
United States Plywood	Weingarten & Co.	551 Fifth Ave.
Eastern Stainless Steel Co.	Blair & Co.	20 Broad St.
Newmont Mining Corp.	Burnham & Co.	15 Broad St.
Litton Industries, Inc.	Burnham & Co.	15 Broad St.
National Cash Register Co.	Paine, Webber, Jackson & Curtis	25 Broad St.
Federated Department Stores, Inc.	Green, Ellis & Anderson	61 Broadway
W. F. Hall Printing Co.	Hardy & Co.	30 Broad St.
General Cigar Co.	Hardy & Co.	30 Broad St.
Union Carbide Corp.	Jas. H. Oliphant & Co.	61 Broadway
Walt Disney Productions	Delafield & Delafield	14 Wall St.
Evans Products Co.	Dreyfus & Co.	50 Broadway
Seaboard Air Line Railroad	Thomson & McKinnon	11 Wall St.
St. Regis Paper Co.	Thomson & McKinnon	11 Wall St.
Neptune Meter Co.	Straus, Blosser & McDowell	30 S. LaSalle St. Chicago
Beckman Instruments, Inc.	Ira Haupt & Co.	111 Broadway
Nopco Chemical Co.	Ira Haupt & Co.	111 Broadway
Leading Chemical Co. Analysis	Montgomery, Scott & Co.	120 Broadway
Int. Tel. & Tel. Corp.	J. R. Williston & Beane	115 Broadway
Max Factor	duPont, Homsey & Co.	31 Milk St., Boston
Values in Electric Utilities	A. G. Becker & Co.	60 Broadway
Penn-Dixie Cement Corp.	Orvis Brothers & Co.	15 Broad St.
Stauffer Chemical Co.	Carl M. Loeb, Rhoades & Co.	42 Wall St.
Eastern Stainless Steel	Carl M. Loeb, Rhoades & Co.	42 Wall St.
Olin Mathieson Corp.	Bache & Co.	36 Wall St.
Sylvania Electric Products	VanAlstyne, Noel & Co.	52 Wall St.
Crucible Steel Corp.	VanAlstyne, Noel & Co.	52 Wall St.
Outlook in Cement Industry	Shearson, Hammill Co.	14 Wall St.
General American Transportation	Reynolds & Co.	120 Broadway
Cincinnati Gas & Elec. Co.	Eastman Dillon, Union Securities & Co.	15 Broad St.
Provident Life & Accident Co.	A. M. Kidder & Co.	1 Wall St.
Chemical & Pharmaceutical Briefs	Smith, Barney & Co.	20 Broad St.
Marmon-Herrington Co.	H. Hentz & Co.	72 Wall St.
Speer Carbon Co.	H. Hentz & Co.	72 Wall St.
Thatcher Glass Mfg. Co.	A. C. Allyn & Co.	44 Wall St.
Duval Sulphur & Potash Co.	Newborg & Co.	25 Broad St.
Litton Industries, Inc.	Sartorius & Co.	39 Broadway

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the full anabolic benefits of androgen-estrogen therapy plus vitamin-mineral supplementation

DUMOGRAN *provides*... therapeutic amounts of Methyltestosterone (4.0 mg.), Ethinyl estradiol (0.008 mg.); protective amounts of Vitamins A, B_1, B_2, B_6, B_{12}, folic acid, niacinamide, calcium pantothenate, C, D, E and iron, iodine, copper, manganese, magnesium, zinc.

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SQUIBB ANABOLIC HORMONES WITH VITAMINS AND MINERALS

For both men and women: restores muscle tone • promotes emotional balance, mental acuity, and a feeling of well-being and self-esteem in geriatric patients • corrects hormonal imbalance • controls the symptoms and sequelae of the climacteric • strengthens bone and relieves backache in many cases • relieves many ill-defined complaints.

Bottles of 60 and 250 capsule-shaped tablets. Usual dosage: 2 tablets daily.

also available: DUMONE (Squibb Methyltestosterone and Ethinyl Estradiol)—for convenient oral administration

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JUST A MINUTE

There is an old story about the famous tillielulou bird. He flew backwards because he didn't care where he was going but wanted to see where he had been.

Thanks to a similar trait in most of us the camera business is booming. It prospers in periods of business recession as well as in booms.

We engage in a bit of crystal gazing, in our effort to see where we are going, but that science hasn't been developed to any degree of accuracy. Give us time.

Well developed is the science of recording the past. The visual end of the effort is in good hands, thanks to research, the strong capital structures of photographic companies and the men of genius who refuse to grant that perfection has been attained.

The sphere of photography is endless. It ranges from the 8 mm. moving picture film of junior taking his bath which you simply must show your friends before they sit down to bridge, through the gamut of trips to Niagara Falls or the Riviera, the industrial pictures which are guides on every major construction job, and on and beyond the needs of our military and scientific staffs. There is no limit.

The stock market has taken cognizance of the boom in photography. Witness the progress made over the last few years in Polaroid. It has constituted one of the sensational growth situations and is a member of a long list of so-called blue chip issues that has rewarded its followers handsomely.

Having had a personal interest in Polaroid's picture-a-minute camera, and also its stock, for a number of years, we were interested in an analysis of the company published last July by the Stock Exchange firm of Dreyfus & Co., 50 Broadway, New York. This was the fifth study of the company by this firm since 1953. In other words it has followed Polaroid closely, and its affiliated open-end investment company, The Dreyfus Fund, has been fully invested in Polaroid since the firm issued its first analysis five years ago.

By fully invested the term, when applied to a mutual fund, means it has bought as much as the law permits. Under S.E.C. rules a mutual fund may not place more than 5 percent of its assets in the securities of any one company. So, as a representative of the Dreyfus Fund explained, "We haven't been able to buy any lately."

The latest study points out that there are a number of characteristics about Polaroid that are different from those surrounding other blue chips.

For instance: It has a monopoly in the picture-a-minute industry. Ninety-four percent of its business is concentrated in this one field. We do not know of any other company with as complete a monopoly, or as concentrated in one line of endeavor.

The company has never borrowed money. That means its expansion from a concern with sales of $6,000,000 in 1950 to one with $60,000,000 sales this year has been financed entirely out of earnings, and that there has been no dilution of stockholders' equity. One other point is that while it holds some of the most important commercial patents in the world, they are carried on its books at $1. In other words its book value figure of $4.05 a share means virtually nothing.

This patient's blood-pressure controlled for the first time without side effects

Remember this particular patient. He typifies the thousands of patients involved in a clinical investigation which promises to bring about a major change in rauwolfia therapy. The patient is being treated in a Massachusetts hospital. His blood pressure without treatment ranged up to 220/138; now *for the first time*, it is being maintained near normal *without side effects*. This dramatic case history is part of the story of a remarkable new antihypertensive agent **Singoserp** t.m. (syrosingopine CIBA)

coming as soon as sufficient supplies are available . . .
from CIBA, *world leader in hypertension research.*



The extent to which Polaroid's investors have benefited in the last few years may be gauged by a glance at the market sheets. When Dreyfus issued its first study the stock sold at $43½ over-the-counter. A 50 percent stock dividend was paid in 1954 and another, of the same amount, in 1956. Then last October 10 three new shares were issued for each share then outstanding, a four-for-one split.

That means that each 1953 share would now be nine shares. The present shares sold at a high of $76¼ on the New York Stock Exchange earlier this year, or the equivalent of nearly $700 for the share available at $43 less than five years ago.

Such an advance, coupled with the fact that on the basis of yield, book value or its price/earnings ratio, Polaroid appears to have overly discounted its future, has made the stock a favorite of the short sellers and has led to the circulation of numerous rumors regarding its affairs.

"Undiluted nonsense," says the Dreyfus report. That's strong language for a survey from the Wall Street district, where the "Sir, you cur" routine is all but extinct and the usual corporate analysis is studded with such hedging phrases as, "The information contained herein has been obtained from sources we believe to be reliable," "barring unforseen developments we recommend this security for long-term appreciation," "we make no guarantees" (obviously), and "those with patience, etc." You have all read such statements, plus those couched in honeyed words when two or more firms have formed varying

How to

help prevent diaper rash



REFINED (TO ENSURE QUALITY) BENZALKONIUM CHLORIDE

ZEPHIRAN® CHLORIDE

In diapers rinsed with Zephiran chloride, urea-splitting bacteria — the "trouble makers" — are inhibited. Ammoniacal decomposition is retarded, and a deodorant effect produced as well. Just give your patients these simple instructions:

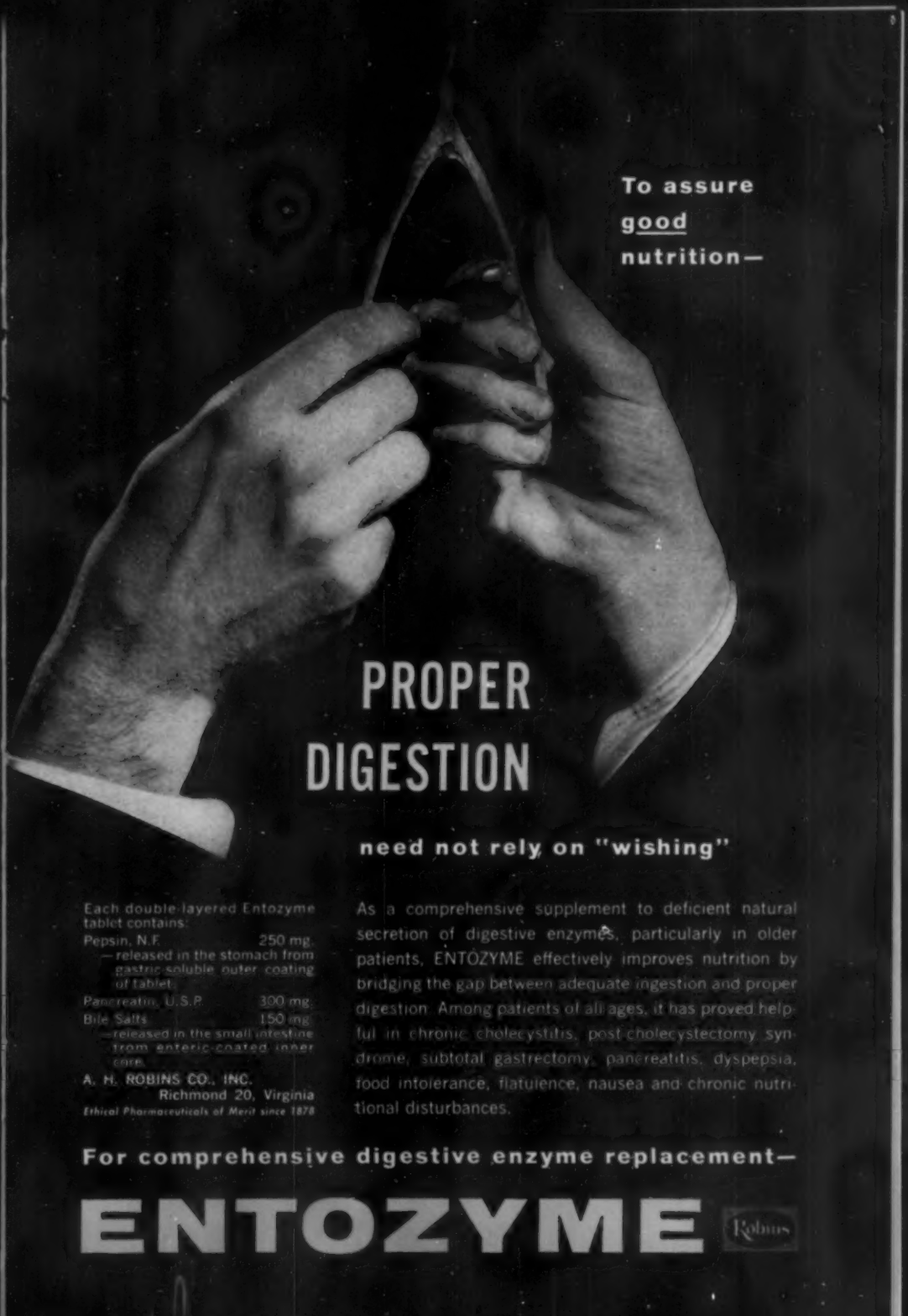
Wash diapers in the usual manner and rinse thoroughly in water to ensure removal of all soap. Add 1 teaspoon of Zephiran chloride concentrate solution 12.8% to 2 quarts of water (= approximately 1:3000 solution). Use this Zephiran solution as a final rinse and dry as usual. This ensures a sterile diaper. Patients' instruction cards available to physicians and nurses on request.

Supplied: Concentrate (12.8% buffered aqueous solution) in 4 oz. and 1 gal. bottles; as tincture 1:1000, tinted, or stainless, and as aqueous solution 1:1000 in 8 oz. and 1 gal. bottles.

Note: Zephiran is nonirritating and virtually nontoxic in proper dilution. It is a real economy, too.

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nutrition—
PROPER
DIGESTION
need not rely on "wishing"
Each double-layered Entozyme tablet contains:
Pepsin, N.F. 250 mg.
—released in the stomach from gastric soluble outer coating of tablet.
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—released in the small intestine from enteric-coated inner core.
A. H. ROBINS CO., INC.
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Ethical Pharmaceuticals of Merit since 1878
As a comprehensive supplement to deficient natural secretion of digestive enzymes, particularly in older patients, ENTOZYME effectively improves nutrition by bridging the gap between adequate ingestion and proper digestion. Among patients of all ages, it has proved helpful in chronic cholecystitis, post-cholecystectomy syndrome, subtotal gastrectomy, pancreatitis, dyspepsia, food intolerance, flatulence, nausea and chronic nutritional disturbances.
For comprehensive digestive enzyme replacement—
ENTOZYME
Robins

stop diarrhea

solves acute diarrheal disease problems...

■ swiftly relieves symptoms ■ rapidly destroys bacterial pathogens (bactericidal rather than bacteriostatic) ■ succeeds where others fail against the enteric "problem pathogens" — increasingly prevalent, refractory strains of Staphylococcus, Escherichia, Salmonella and Shigella

Furoxone® Liquid

...without creating new problems

■ does *not* upset the balance of normal intestinal flora
■ does *not* encourage monilial or staphylococcal overgrowth
■ does *not* induce significant bacterial resistance

A PLEASANT ORANGE-MINT FLAVORED SUSPENSION containing FUROXONE, 50 mg. per 15 cc., with kaolin and pectin ■ For patients of all ages (may be mixed with infant formulas, passes through a standard nursing nipple) ■ Dosage: Should provide (in 4 divided doses) 400 mg. daily for adults, 5 mg./Kg. daily for children ■ Supplied: bottles of 240 cc. (also: FUROXONE Tablets, 100 mg. scored, bottles of 20 and 100)



THE NITROFURANS—a unique class of antimicrobials
EATON LABORATORIES, NORWICH, NEW YORK

opinions about the same security.

Mr. Dreyfus departs from the Wall Street routine by starting his foreword with these words: "To listen to all the undiluted nonsense which has been circulated in the last few months, one would think that Polaroid is a second grade uranium company instead of possessing extremely high quality."

He makes two major observations, plus several others. The two are: "We have not found the vaguest semblance of truth in any rumor that says that any other company has a product competitive to Polaroid's; and, to the best of our knowledge Polaroid has no desire, or intention, of taking over any other company at this time, nor of merging with any company."

The latter obviously refers to a rumor it was discussing a merger with Bell & Howell.

He adds that for many years the story went the rounds that its camera was just a gadget, and that even some stockholders had doubts.

In this connection he quotes from the July, 1958 "Popular Photography" that, "It requires little editorial courage or limb-climbing to say that the image quality attainable with Polaroid materials today is the equal to any obtainable by any other black-and-white process, and that only the most technically proficient darkroom workers are able to match the brilliance and gradation of prints that are being torn from Polaroid cameras by even the rankest of beginners."

Last December Polaroid announced that "research in the field of color has advanced in our laboratories to the point where full-color prints are being made directly in the Polaroid Land cameras."

Mr. Dreyfus believes the stock is apt to attract speculation, with resultant sharp moves in either direction, and for this reason he recommends that: "the investor should buy no more stock than he can feel comfortable with—and sit back and enjoy the fireworks. This is how we think the real money will be made in Polaroid."

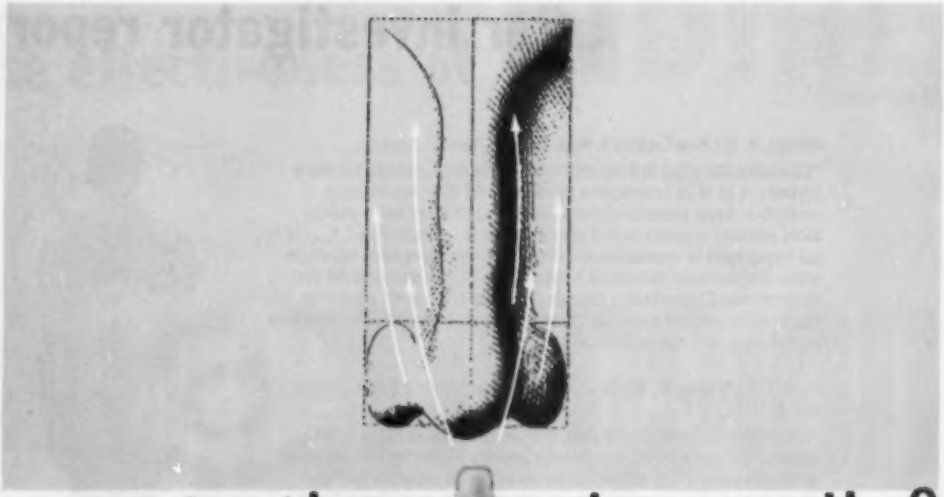
THE STORMS WE HAVE WEATHERED

It is a commonplace to say the stock market has its ups and downs. It has had plenty of both in the last two years, and it has managed to score new highs.

Most averages have gone to their highs for all time.

Perhaps we will feel more confident if we look at some of the storms we have faced during this period. The investment firm of Hemphill, Noyes & Co. recently drew up the following list of eleven; and perhaps you could add a few more:

- two Presidential heart attacks,
- a Senate investigation,
- continued cold war news,
- juggling of margin requirements,
- juggling of rediscount rates,
- juggling of bank reserves,
- continued bearishness,
- dire predictions by the prophets of doom,
- a drop of over 10% in many U. S. bond issues,
- a large number of dividend cuts and omissions,
- a large number of poor earnings reports.



penetration gives relief



Penetration is the prerequisite for sound intranasal therapy. Thonzonium bromide, an exclusive mucolytic agent with unusual penetration-promoting properties, causes prompt dispersion of mucoid secretions and speeds medication to the site of irritation. Deep infiltration also allows the therapeutic agents of Biomydrin to remain active for prolonged periods. Biomydrin lets the patient breathe easily again.

Lasting relief of rhinitis or sinusitis is usually obtained in minutes with Biomydrin. Phenylephrine shrinks nasal mucosa; antibacterial neomycin and gramicidin fight infection; antihistaminic thonzylamine relieves itching and sneezing.

Supplied in ½ oz. plastic atomizer and ½ oz. bottle with dropper. Also available: Biomydrin F Nasal Spray, containing hydrocortisone alcohol 0.02%, for severe edema and inflammation. In ½ oz. plastic atomizer.

Biomydrin®

nasal spray/drops

WARNER
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Investigator

after investigator reports

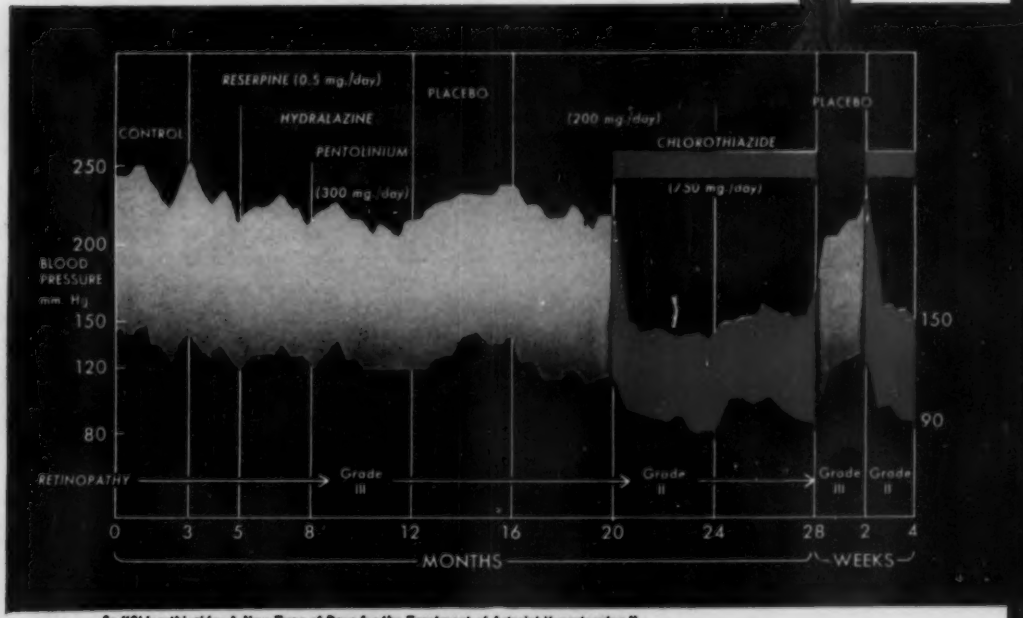
Wilkins, R. W.: New England J. Med. 257:1026, Nov. 21, 1957.

"Chlorothiazide added to other antihypertensive drugs reduced the blood pressure in 19 of 23 hypertensive patients." "All of 11 hypertension subjects in whom splanchnicectomy had been performed had a striking blood pressure response to oral administration of chlorothiazide." ". . . it is not hypotensive in normotensive patients with congestive heart failure, in whom it is markedly diuretic; it is hypotensive in both compensated and decompensated hypertensive patients (in the former without congestive heart failure, it is not markedly diuretic, whereas in the latter in congestive heart failure, it is markedly diuretic). . . ."



Freis, E. D., Wanko, A., Wilson, I. H. and Parrish, A. E.: J.A.M.A. 166:137, Jan. 11, 1958.

"Chlorothiazide (maintenance dose, 0.5 Gm. twice daily) added to the regimen of 73 ambulatory hypertensive patients who were receiving other antihypertensive drugs as well caused an additional reduction [16%] of blood pressure." "The advantages of chlorothiazide were (1) significant antihypertensive effect in a high percentage of patients, particularly when combined with other agents, (2) absence of significant side effects or toxicity in the dosages used, (3) absence of tolerance (at least thus far), and (4) effectiveness with simple 'rule of thumb' oral dosage schedules."



In "Chlorothiazide: A New Type of Drug for the Treatment of Arterial Hypertension," Hollander, W. and Wilkins, R. W.: Boston Med. Quart. 8: 1, September, 1957.

MERCK SHARP & DOHME Division of MERCK & CO., Inc., Philadelphia 1, Pa.

the effectiveness of 'DIURIL'
(CHLOROTHIAZIDE)

in

Hypertension

as simple as 1-2-3

1 **INITIATE THERAPY WITH 'DIURIL'.** 'DIURIL' is given in a dosage range of from 250 mg. twice a day to 500 mg. three times a day.

2 **ADJUST DOSAGE OF OTHER AGENTS.** The dosage of other antihypertensive medication (reserpine, veratrum, hydralazine, etc.) is adjusted as indicated by patient response. If the patient is established on a ganglionic blocking agent (e.g., 'INVERSINE') this should be continued, but the total daily dose should be immediately reduced by as much as 25 to 50 per cent. This will reduce the serious side effects often observed with ganglionic blockade.

3 **ADJUST DOSAGE OF ALL MEDICATION.** The patient must be frequently observed and careful adjustment of all agents should be made to determine optimal maintenance dosage.

SUPPLIED: 250 mg. and 500 mg. scored tablets 'DIURIL' (chlorothiazide); bottles of 100 and 1,000.

'DIURIL' is a trade-mark of Merck & Co., Inc.

Smooth, more trouble-free management of hypertension with 'DIURIL'

THE WIESENBERGER STOCK DERBY

Each year the firm of Arthur Wiesenberger & Co. operates what it terms its Stock Derby. In this contest its clients, readers of the firm's "Investment Report" and various financial newspapermen, make their guesses on what they think will happen to the Dow Jones averages between Labor Day and the close of the year.

They also make guesses on which particular listed stocks they think will enjoy the best percentage advances and suffer the largest percentage losses.

In this year's contest it is interesting to note that two of the three stocks picked to appreciate the most were Studebaker-Packard and American Motors.

The third was Allegheny. Two of the three picked to decline the most were Studebaker-Packard and American Motors. The third was Artloom.

ENERGY FROM THE SUN

Solar power cells, which convert the sun's energy into electricity without batteries of any sort, are being used as a radio transmitter power source in the Vanguard satellite, according to "Keeping Up," monthly informational bulletin published by Television Shares Management Corp., investment managers for Television-Electronics Fund, Inc.

Termed a "first" in world space conquest, the solar energy cells are manufactured by Hoffman Electronics Corp. and consist of wafer-thin discs of highly purified silicon diffused with tiny quantities of arsenic and boron. Installed in a special "solar converter" mounting on the space vehicle's surface skin, the solar cells trap light energy from the sun and convert it into electricity to operate one of the Vanguard's two radio transmitters.

The wide-scale use of the sun's rays for house heating and even for generating electric power now may be only a decade or so away.

A factory in Englewood, N. J. already is making solar hot water heaters that will supply enough hot water for a family without a penny of cost except the first installation. At least eleven other companies are making solar hot water heaters and several thousands of them have been installed in Florida, Arizona, Texas, California and other states that have lots of sunshine.

Calvin D. McCracker, president of Jet-Heet, Inc., of Englewood says the solar hot water heater now is efficient enough to be used even in the climates of southern Canada and the northern United States.

Using principles worked out by Dr. Maria Telkes of Massachusetts Institute of Technology, McCracken's company also is making a roof heat collector which he claims will heat a four bedroom house in New Jersey entirely by the sun's rays.

He says the heating system can be installed in some houses for under $3,000. At least nine solar heated houses have been built in the northern United States by engineers of M.I.T. and other colleges, and are working well.



THEODOR BILLROTH

Most surgical procedures used in gastric operations today stem from the partial gastrectomies and gastro-enterostomies originated by

Theodor B. Billroth

(1829-1894) and his assistant Anton Woelfler. Billroth I and II are bywords in gastroenterological surgery.

One **Milpath**®

®Miltown + *anticholinergic*

tablet t.i.d. with meals and two tablets at bedtime control G.I. pain, spasm, anxiety and tension without belladonna or barbiturates. side effects are minimal.

Formula: each scored tablet contains: meprobamate 400 mg., tridihexethyl iodide 25 mg.

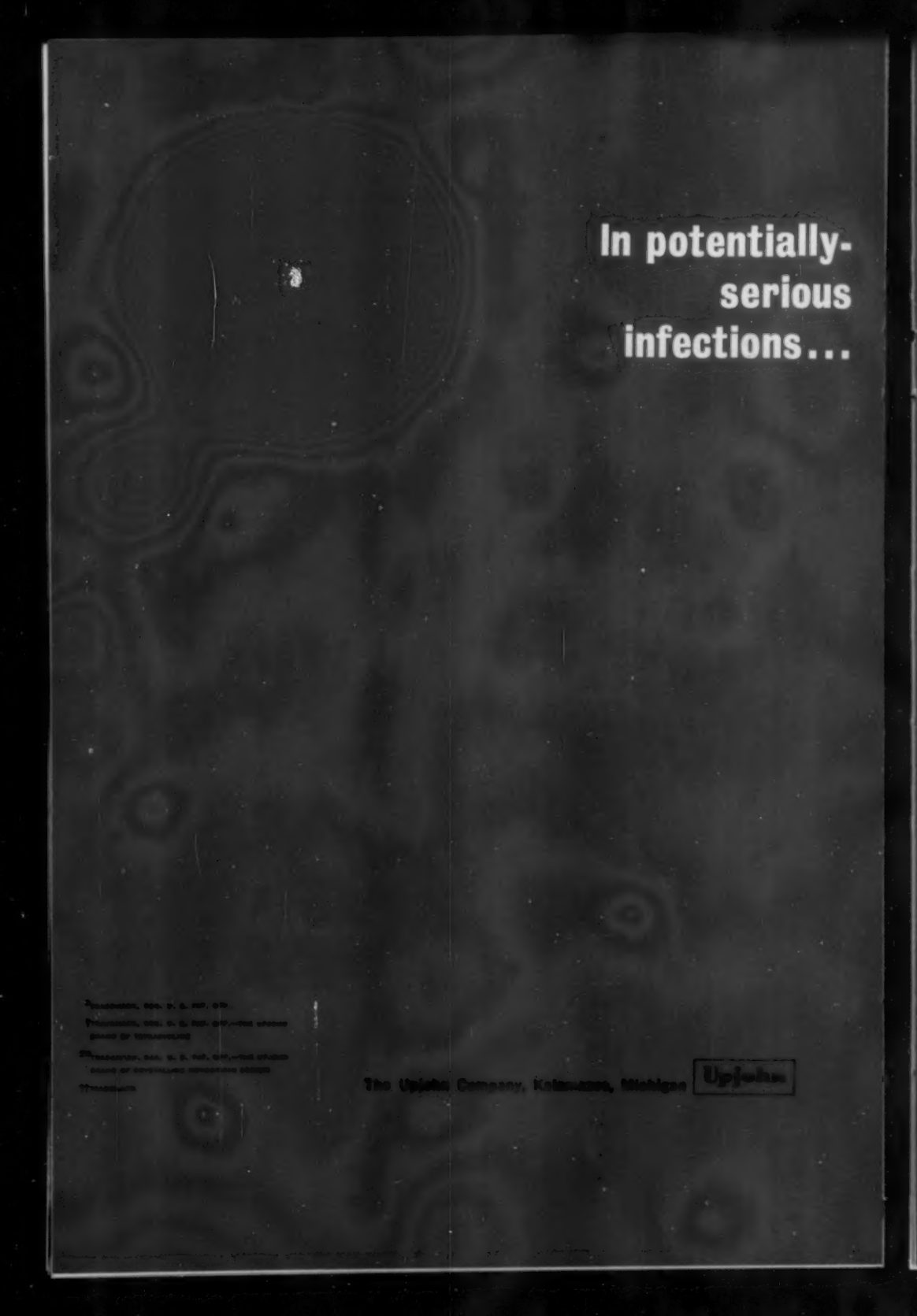
Dosage: 1 tablet t.i.d. with meals and 2 tablets at bedtime.

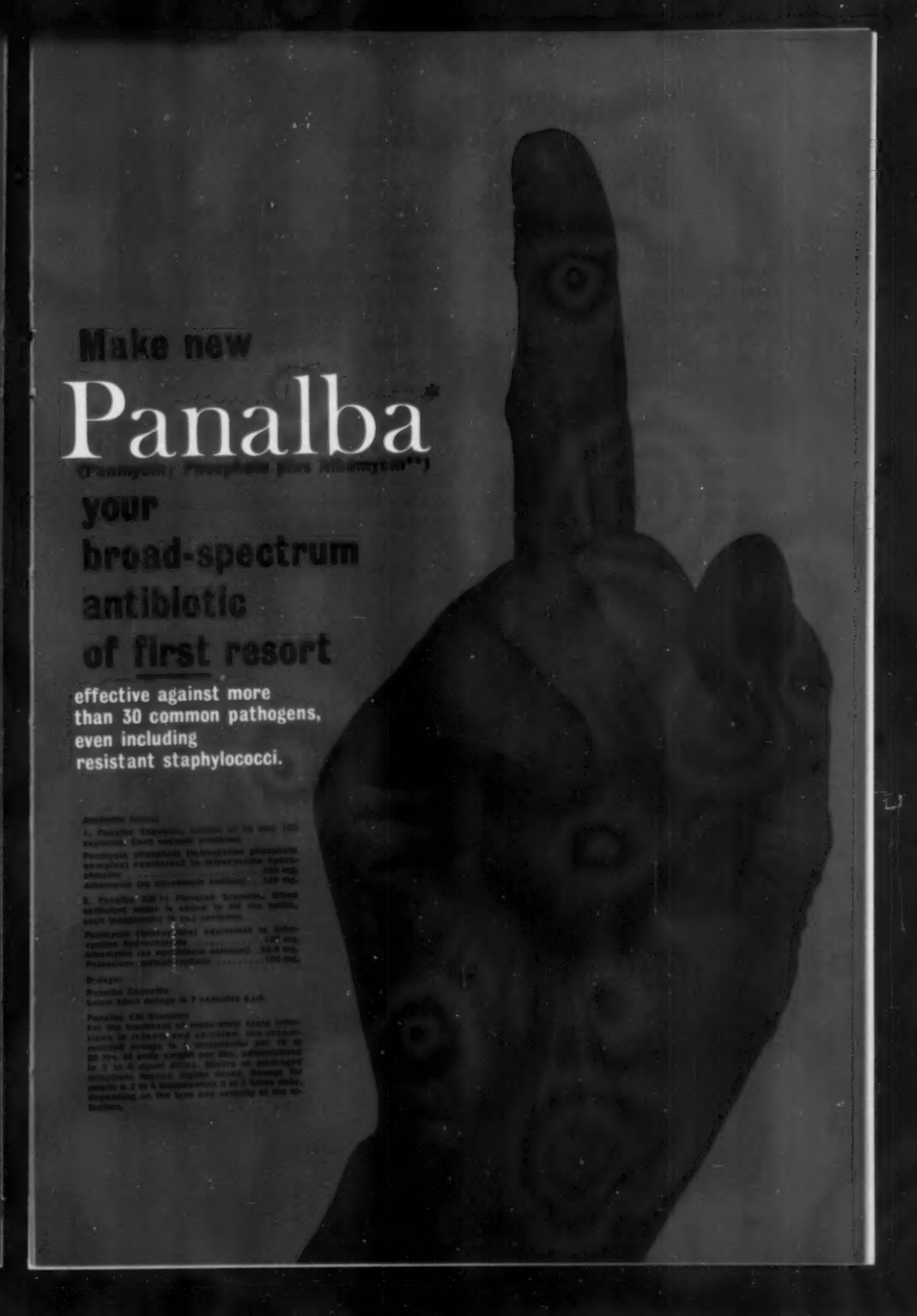
Indications: duodenal and gastric ulcer • colitis • spastic and irritable colon • gastric hypermotility • gastritis • esophageal spasm • intestinal colic • functional diarrhea • G. I. symptoms of anxiety states.

Literature and samples on request.

WALLACE LABORATORIES

New Brunswick, N. J.


In potentially-
serious
infections...
The Upjohn Company, Kalamazoo, Michigan
Upjohn


Make new
Panalba*
your
broad-spectrum
antibiotic
of first resort
effective against more
than 30 common pathogens,
even including
resistant staphylococci.

THERE IS NO MAGIC

It would be so nice if we could gaze into a crystal ball or wave a magic wand and find out where this or that stock would sell next month. On second thought, it wouldn't be nice at all; because if there were such a thing as seventh sight there wouldn't be any fun in trying.

The profession of the analyst who seeks to determine values is as precarious as that of the scientist who seeks to discover the causes of human ills, and perfect a cure.

The fact remains that those in the security business—as well as those who write about the daily play and by-play of values—are constantly confronted by very nice people who get disgruntled if you beg off from telling them of a stock as safe as a United States government bond, providing a good yield and with growth prospects equal to the Louisiana Purchase.

No one is going to pick the highs or the lows; and remember that when you buy, or you sell, someone else has a different idea. If he didn't, there wouldn't be a trade.

We like a comment on this theme from John Magee, Springfield, Mass. analyst of market trends, who observed recently that there is no method whereby one may look into the future and see infallibly what next week or next month will bring.

"It is our belief," observed this ana-

Satisfied with the usual cough remedies?



—do you find that the local soothing effect of cough syrups is not enough?
—are you concerned about the side effects of codeine?
—do you find that many remedies decrease cough productivity?
—do you have patients who do not cooperate fully because of cumbersome forms of issue and too frequent dosage?

AVERAGE ADULT DOSAGE: 100 mg. t.i.d. In refractory cough, up to 6 perles (600 mg.) a day may be given.
AVERAGE DOSAGE FOR CHILDREN UNDER 10: One Pediatric Perle (50 mg.) t.i.d.

CIBA
SUMMIT, N. J.

1. Shane, S. J., Krzyski, T. K., and Copp, S. E.: Canad. M.A.J. 77:600 (Sept. 15) 1957.

lyst, whose batting average is an enviable one, "that anyone who claims to do anything like this is either very ignorant or a charlatan."

Mr. Magee is a technician and, as he states it, the technical method interprets the market as the present conditions show it, including the effects of inside knowledge, hopes, fears, analysis and the accumulation or distribution of large investors.

"There is nothing in the method that can show that a large government contract will be awarded to a firm next month; nor that a damaging lawsuit may be instituted against it in midsummer; nor that the president of the company may die, or that a rich and unexpected strike of uranium may be found in the company's property.

There is no magic in the technical method, and there is no magic in any other method either.

CHRISTMAS OUTLOOK GOOD

Spurred by increasing consumer income and confidence, retail sales during the coming Christmas season should top year-ago levels, according to the United Business Service, Boston.

The Service points out that retail sales have been showing an encouraging trend in recent weeks. Food chains are making the best showing in the retail field, with dollar sales recently running 8% above 1957 levels. Through bigger and better supermarkets, efficient distribution warehouses, and aggressive

If not...here's why you should try new Tessalon Perles



- controls cough by dual action— in the chest as well as at cough centers of the brain.
- 2½ times as effective as codeine[1] without the side effects of codeine.
- controls cough frequency without decreasing productivity or expectoration.
- Perles offer convenient, precise dosage and relief for 3 to 8 hours.

SUPPLIED:
TESSALON *Perles*, 100 mg. (yellow).
Pediatric Perles, 50 mg. (red).
Available Oct. 1, 1958.

Tessalon®
(benzonatate CIBA)

merchandising, such chains are likely to continue to win an increasing share of the expanding retail food market, according to the Service.

THE OLDEST AND THE BIGGEST

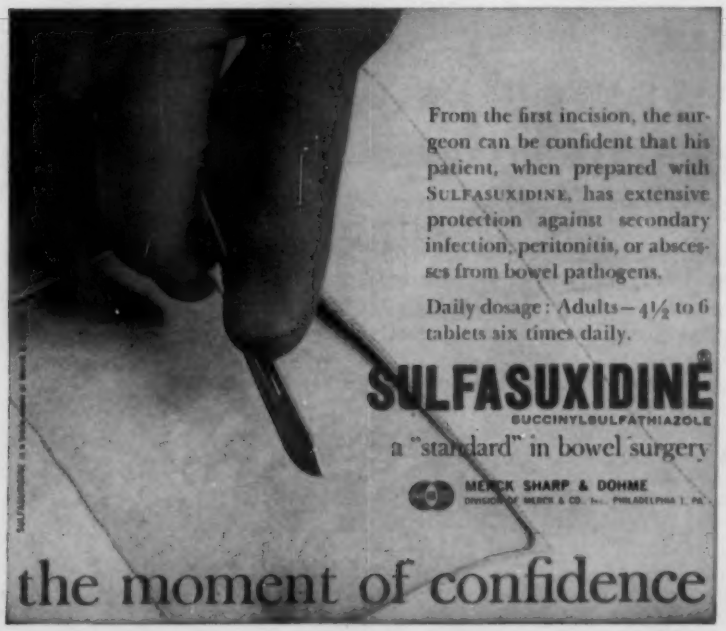
We take electrical gadgets more or less for granted. With the push of a button we have at our command the power to do things that only a few years ago would have been considered magic.

Since 1930 the national economy has improved at an annual rate of 5.3 per cent. In that same period sales of the electrical equipment industry have increased 7.2 per cent. Sales of the General Electric Co., oldest and largest in the field, have increased 8.7 per cent a year.

This is pointed out in a study prepared by Laurence W. Fairfax, of Dominick & Dominick.

While electrical equipment accounts for the bulk of G.E.'s sales, the firm points out that the company is now growing in eleven other industries as well. This, plus "far-sighted management and personnel policies, and its extensive production and financial resources," provide further reasons for the firm predicting that General Electric's sales will increase about one and one-third times over the next ten years.

It is impossible to think of the broad field of electricity without thinking of research and its accomplishments over the last few years. The electrical equipment has no exclusive rights in the field of science, but it has always been a leader in that respect.



ANNOUNCING

a new order of magnitude in corticosteroid therapy!

The great corticosteroid era
opened ten years ago
with the introduction of CORTONE® (cortisone).
Today, MERCK SHARP & DOHME proudly
presents the crowning
achievement of the first corticosteroid
decade—DECADRON (dexamethasone)
—a new and unique compound, which
brings a new order of magnitude
to corticosteroid therapy



Decadron*

DEXAMETHASONE

to treat more patients more effectively

MSD MERCK SHARP & DOHME

a new order of magnitude

In Anti-Inflammatory Potency

DECADRON "possesses greater anti-inflammatory potency per milligram than any steroid yet produced,"[1] and is "the most potent steroid thus far synthesized."[2] Milligram for milligram, it is, on the average, 5 times more potent than 6-methylprednisolone or triamcinolone; 7 times more potent than prednisone; 28 times more potent than hydrocortisone; and 35 times more potent than cortisone.

In Dosage Reduction

Thanks to this unprecedented potency, DECADRON is "highly effective in suppressing the manifestations of rheumatoid arthritis when administered in remarkably small daily milligram doses."[3] In a number of cases, doses as low as 0.5-0.8 mg. proved sufficient for daily maintenance. The average maintenance dosage in rheumatoid arthritis is about 1.5 mg. daily.

In Elimination and Reduction of Side Effects

Virtual absence of diabetogenic activity, edema, sodium or water retention, hypertension, or psychic reactions has been noted with DECADRON.[1,2,3,4] Other "classical" reactions were less frequent and less severe. DECADRON showed no increase in ulcerogenic potential, and digestive complaints were rare. Nor have there been any new or "peculiar" side effects, such as muscle wasting, leg cramps, weakness, depression, anorexia, weight loss, headache, dizziness, tachycardia or erythema. Thus DECADRON introduces a new order of magnitude in safety, unprecedented in corticosteroid therapy.

In Therapeutic Effectiveness

With DECADRON, investigators note "a decided intensification of the anti-inflammatory activity"[2] and antirheumatic potency.[4] Clinically, this was manifested by a higher degree of improvement in many patients, previously treated with prednisteroids,[3] and by achievement of satisfactory control in an impressive number of recalcitrant cases.[3,4]

In Therapeutic Range

More patients can be treated more effectively with DECADRON. Its higher anti-inflammatory potency frequently brings relief to cases resistant to other steroids. Virtual freedom from diabetogenic effect in therapeutic dosage permits treatment of many diabetics without an increase in insulin requirements. Absence of hypertension and of sodium and fluid retention allows effective therapy of many patients with cardiovascular disorders. Reduction in the incidence and severity of many side effects extends the benefits of therapy to numerous patients who could not tolerate other steroids. And a healthy sense of well-being, reported by nearly all patients on DECADRON, assures greater patient cooperation.

References:

1. Boland, E.W.: California Med. 88:417 (June) 1958.
2. Bunim, J.J., et al.: Arthr. & Rheum. 1:313 (Aug.) 1958.
3. Boland, E.W., and Headley, N.E.: Paper read before the Am. Rheum. Assoc., June 21, 1958, San Francisco, Cal.
4. Bunim, J.J., et al.: Paper read before the Am. Rheum. Assoc., June 21, 1958, San Francisco, Cal.

To treat more patients more effectively in all allergic and inflammatory disorders amenable to corticosteroid therapy

DOSAGE AND ADMINISTRATION

With proper adjustment of dosage, treatment may ordinarily be changed over to DECADRON from any other corticosteroid on the basis of the following milligram equivalence:

One 0.75 mg. tablet of DECADRON (dexamethasone) replaces:

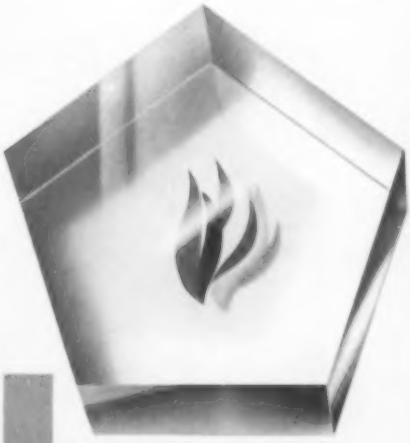
↓ One 4 mg.	↓ One 5 mg.	↓ One 20 mg.	↓ One 25 mg.
tablet of methylprednisolone or triamcinolone	tablet of prednisolone or prednisone	tablet of hydrocortisone	tablet of cortisone

SUPPLIED:

As 0.75 mg. scored pentagon-shaped tablets; also as 0.5 mg. tablets to provide maximal individualized flexibility of dosage adjustment.

Detailed literature is available to physicians on request.

*DECADRON is a trademark of Merck & Co., Inc.
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Merck Sharp & Dohme Philadelphia 1, Pa.
Division of Merck & Co., Inc.

Decadron*

DEXAMETHASONE

ANNOUNCING

a new order of magnitude in corticosteroid therapy!

The great corticosteroid era opened ten years ago with the introduction of CORTONE® (cortisone). Today, MERCK SHARP & DOHME proudly presents the crowning achievement of the first corticosteroid decade—DECADRON (dexamethasone) —a new and unique compound, which brings a new order of magnitude to corticosteroid therapy



Decadron*

DEXAMETHASONE

to treat more patients more effectively

MSD MERCK SHARP & DOHME

Printed in U.S.A.



she needs support too...

during her pregnancy
and throughout lactation

NATABEC®

KAPSEALS®

vitamin-mineral combination

She supplements her daily diet with the NATABEC Kapseals prescribed by her physician. The carefully balanced formula of NATABEC provides vitamin-mineral support, helping to promote better health for both mother and child.

each NATABEC Kapseal contains:

Calcium carbonate	600 mg.
Ferrous sulfate	150 mg.
Vitamin D	400 units (10 mcg.)
Vitamin B_1 (thiamine) mononitrate	3 mg.
Vitamin B_2 (riboflavin)	2 mg.
Vitamin B_{12} (crystalline)	2 mcg.
Folic acid	1 mg.
Synkamin® (vitamin K) (as the hydrochloride)	0.5 mg.
Rutin	10 mg.
Nicotinamide	10 mg.
Vitamin B_6 (pyridoxine hydrochloride)	3 mg.
Vitamin C (ascorbic acid)	50 mg.
Vitamin A	4,000 units (1.2 mg.)
Intrinsic factor concentrate	5 mg.

dosage: As a dietary supplement during pregnancy and throughout lactation, one or more Kapseals daily. Available in bottles of 100 and 1,000.

PARKE, DAVIS & COMPANY
DETROIT 32, MICHIGAN

88550

The Dominick & Dominick report gives us figures on this. It notes that in terms of the number of specific personnel engaged the total research effort of the United States has doubled since the start of World War II.

When consideration is given to rising costs and to the vastly increased amount of scientific equipment used, the total expenditures for research are found to have quadrupled. The electrical equipment industry accounts for more than one-fifth of all industrial research and development work in the country. It allocates 5.9 per cent of its sales proceeds to this purpose, while the chemical industry allots 2.5 per cent and the rest of industry 1.7 per cent.

Mr. Fairfax is convinced that in a broad sense, research discoveries in any industry are likely to benefit the electrical equipment industry. Almost every factory that improves its products and its processes promises to become a customer for more power and more and better equipment and instruments that depend upon electricity, he observes.

Speaking of the future, he makes four basic assumptions:

1. The number of people and families in the United States will continue to increase at a rapid rate.

2. The gross national product will expand more rapidly than the population, reflecting an increasing standard of living as well as greater defense expenditures.

3. The electrical equipment industry will continue to grow more rapidly than the rest of the country.

4. General Electric will continue to expand faster than the electrical equipment industry; it is now growing in a dozen fields.

whenever he starts to CHEW

he's ready for Delectavites®

New vitamin-mineral supplement in delicious chocolate-like nuggets



Each nugget contains:

Vitamin A	5,000 Units*	Boron	0.1 mg.
Vitamin D	1,000 Units*	Cobalt	0.1 mg.
Vitamin C	75 mg.	Fluorine	0.1 mg.
Vitamin E	2 Units†	Iodine	0.2 mg.
Vitamin B-1	2.5 mg.	Magnesium	3.0 mg.
Vitamin B-2	2.5 mg.	Manganese	1.0 mg.
Vitamin B-6	.1 mg.	Molybdenum	1.0 mg.
Vitamin B-12 Activity	5 mcg.	Potassium	2.5 mg.
Pantothenol	5 mg.	*U.S.P. units	†Int. units
Nicotinamide	30 mg.		
Folic Acid	0.1 mg.		
Biotin	20 mcg.		
Rutin	12 mg.		
Calcium Carbonate	125 mg.		

Dose: One Nugget per day
Supplied: Boxes of 30—one month's supply
Boxes of 90—three months' supply or family package.

WHITE LABORATORIES, INC., KENILWORTH, N. J.

- postoperatively
- in pregnancy when vomiting is persistent
- following neurosurgical diagnostic procedures
- in infections, intra-abdominal disease, and carcinomatosis
- after nitrogen mustard therapy

for nausea and vomiting

VESPRIN

Squibb Trifluprom azine

- provides prompt, potent, and long-lasting control
- capable of depressing the gag reflex
- effective in cases refractory to other potent antiemetic agents
- may be given intravenously, intramuscularly and orally
- no pain or irritation on injection

ANTIEMETIC DOSAGE:
Intravenous: 5 mg. average single dose
Dosage range 2-10 mg.
Intramuscular: 15 mg. average single dose
Dosage range 5-15 mg.
If subsequent parenteral dose is needed, one-half the original dose will usually suffice
Oral: 10-20 mg. initially; then 10 mg. t.i.d.

SUPPLY:
Parenteral solution – 1 cc. ampuls (20mg./cc.), 1 cc. multiple dose vials (20 mg./cc.)
Oral tablets – 10 mg., 25 mg., 50 mg., in bottles of 50 and 500

SQUIBB *Squibb Quality – The Priceless Ingredient*

"VESPRIN" ® IS A SQUIBB TRADEMARK



The Japanese Way

The Japanese inn, with its traditional quiet and seclusion, and gracious atmosphere, can provide the American traveler with a novel experience. It's a most pleasant way to learn something of Japanese life.

An overnight stay at a Japanese inn is one item that visitors to the land of the cherry blossoms should mark with a definite "must" in their tour program. Aside from the pocketbook angle (native-style lodgings are less costly than foreign style hotels), it pays big dividends in new experiences.

Best of all, says the Japan Tourist Association, it will enable you to gain a glimpse of how the Japanese people live, an aspect which most of the tourists who flock to these islands annually have heretofore very seldom seen.

More than 50,000 of these establishments are scattered throughout the country. Some are gigantic and others quite diminutive, but they all have two common denominators, novelty and charm.

It doesn't matter whether the inn of your choice is hidden away in some nook of a busy, bustling city or situated on the sunny hillside of a quiet hot spring town. For a novel adventure awaits you as your car rolls up the graveled driveway and comes to a halt before the wide, spick-and-span entrance.

Two banto-sans (porters) in blue happi coats appear. One smilingly opens the car door while the other scurries to pick up your travel gear from the luggage compartment.

Entering the doorway, a pair of kimono-clad maid-sans bow low in welcome as you change from shoes to slippers, and soon you are escorted through a maze of shiny corridors to your suite that opens onto a miniature garden.

Quiet Seclusion Sealed off from the rest of the world by a natural wall of trees and rocks that form the backdrop for a small, flower-bordered pond, you are afforded a sense of seclusion and privacy that can never be gained within the four walls of a modern Western-style hotel.

As you ease yourself onto a thick cushion before the low, wide table in the middle of the room, a maid-san serves you tea and sweets and produces a much-thumbed book which she opens before you. This is the hotel register.

With formalities over, the bath-boy appears to announce that preparations have been completed for the honorable bath. Changing into the "yukata," a cotton kimono which is provided by the

both have a cold...

BUT ONLY ONE IS COMFORTABLE



DUADACIN™

brings comfort to her cold

Stopped-up nose — **PROMPT DECONGESTANT ACTION** Rapidly relieves nasal congestion, while giving the patient a welcome "lift"... with Phenylephrine.

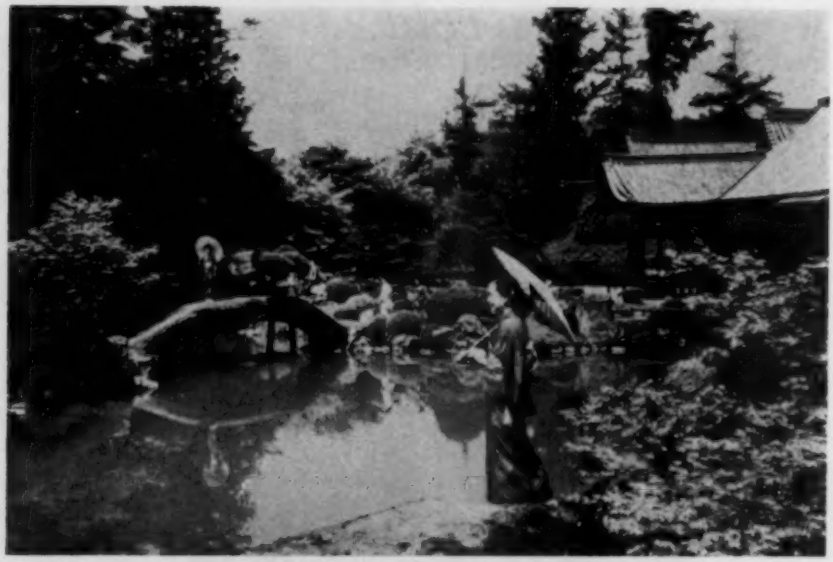
Allergic manifestations — **COMBATS HISTAMINE-INDUCED SYMPTOMS** Balanced ratio of chemically distinct antihistamines results in full potency with marked freedom from side-actions... with Chlorpheniramine and Pyrilamine.

Headache, Fever, Sore Throat — **ANALGESIC ACTION FOR ADDED COMFORT** Potentiated effect of Salicylamide with acetophenetidin helps relieve depressing "aches and pains." Caffeine and ascorbic acid also provided.

Dose: One capsule three or four times daily.

Supplied: Green and white capsules, bottles of 100

LLOYD BROTHERS, INC., CINCINNATI 3, OHIO



Geishas stroll through the delicately landscaped Samboin Gardens in Kyoto, ancient capital of Japan. A city of feudal splendor, Kyoto is a great center of Buddhist worship.

management, you are escorted to the hot spring pool. The size and depth of these massive bathtubs vary with each establishment but there are many that can accommodate over a hundred persons at one time with no undue crowding.

Mixed bathing is not so popular as it was in former days but there is no law against it and the custom is still practiced, with no evident sign of blushes, at many resorts. Of course, there are separate ablutionary facilities for the distaff side if modesty demands, but the vast volume of steam that arises from the pool usually provides an adequate screen for all except the overly timid.

Most suites are also provided with a private bathroom, and the spacious tubs are roomy enough to fully submerge the most ample proportions of any six-foot foreigner.

Meals The approach of supper time becomes evident as the maid-san again appears on the scene, this time to clear the table and arrange the various paraphernalia for the approaching repast, and you become aware of another pleasant feature of the Japanese inn. For here, one does not need to dress for his meals. Once the guest dons the "yukata," that garment becomes a part of him and stays with him until the time of his departure. Dining *en deshabille* may be frowned upon in the West but is the custom at a Japanese inn.

As a rule the native inns serve only



chemically different · pharmacologically unique
clinically distinctive

- prompt and predictable action

  Tablets: work overnight without disturbing sleep;[1-8] taken before breakfast, act within six hours

  Suppositories: produce evacuation in 15-60 minutes[6-9]

- acts directly on colonic mucosa[10]
- virtually no contraindications[1-13]
- very well tolerated[1,2,5,9,11-13]

dosage: Tablets: One to 3 (usually 2) at bedtime for bowel movement the following morning, or ½ hour before breakfast for a movement within six hours.
Suppositories: One at time bowel movement is required.

supplied: DULCOLAX® (brand of bisacodyl). Yellow enteric-coated tablets of 5 mg. in boxes of 6 and bottles of 100. Suppositories of 10 mg. in boxes of 6. Under license from C. H. Boehringer Sohn, Ingelheim.

acts directly on colonic mucosa
does not depend on systemic absorption

references
(1) Foertsch, A.: Deutsche med. Wchnschr. 78:916, 1953. (2) Franki, R.: Medizinische No. 49:1587 (Dec. 5) 1953. (3) Krueger, H. H., and Piegsa-Quischotte, I.: Aerztl. Wchnschr. 8:891 (Sept. 11) 1952. (4) Scheel, M.: Hippokrates 26:624, 1955. (5) Stockmeier, F.: Muenchen. med. Wchnschr. 95:1058, 1953. (6) Ganz, P., and Zindler, M.: Medizinische No. 29/30:1042, 1955. (7) Kolshorn, R.: Muenchen. med. Wchnschr. 96:949, 1954. (8) Clark, A. N. G.: Brit. M. J. 2:866 (Oct. 12) 1957. (9) Axe, H.: Medizinische No. 3:118, 1954. (10) Schmidt, L.: Arzneimittel-Forsch. 3:19, 1953. (11) Barth, H.: Deutsches med. J. 4:415 (Aug. 15) 1953. (12) Brandt, G., and Brandt, W.: Landarzt 30:589, 1954. (13) Vieth, H.: Therap. Gegenw. 94:60, 1955.

GEIGY
ARDSLEY, NEW YORK

local dishes to its guests (breakfast and supper are included in the room charge) but Western food can be ordered if one feels the Japanese bill-of-fare is too exotic. Of course, you can always fall back on "tempura" and "sukiyaki" if the soup is too cold or the steak too tough. The latter, however, is rarely apt to happen, since Japan proudly boasts some of the world's finest beef.

One word of advice, however. Except in cities, the Japanese concept of coffee is still very primitive. Hence, it is always a good idea to include a jar of instant coffee in your bag—just in case.

To Bed Bedtime comes rather early at a Japanese inn. Of course, it is of no concern to the management if the guest becomes so engrossed in enjoying the atmosphere that he stays up till the wee hours, but around 10 o'clock the maid-san comes around to prepare the beds.

To those accustomed to the Western concept of sleeping comfort, the thought of spending a night on the floor may

—Continued on page 155a



In the Japanese inn dining appeals both to eye and palate. Establishment shown is located in Tokyo.

smoothly

confidently

comfortably through estrogen deficiencies

- Simple oral dosage form, plus welcome symptomatic relief through the menopausal period commend ESTROSED therapy to both physician and patient.
- The clinically proved benefits of ethinyl estradiol and reserpine are supplied in a single tablet . . . to correct estrogen imbalance . . . to control accompanying emotional instability.
- For safe, effective management of menopausal patients . . . for potent, well-tolerated estrogen therapy . . . for safe tranquilization . . . for convenient, economical medication, prescribe

estrosed

Indications: hypo-ovarianism, menometrorrhagia, postmenopausal therapy. **dosage:** 1 or 2 tablets, two or three times a day, according to symptoms. **supplied:** bottles of 100 and 1000 tablets.

Samples and literature to physicians on request.

CHICAGO PHARMACAL COMPANY
CHICAGO, ILLINOIS



cold sufferers never dry...



they just blow away!



Until you provide GREATER RELIEF with longer-acting* Novahistine LP

*A single dose provides relief for as long as 12 hours.

Novahistine LP† combines the action of a quick-acting sympathomimetic with an antihistaminic drug for a *greater* decongestive effect.

Each LP tablet contains:
Phenylephrine hydrochloride. 20 mg.
Chlorprophenpyridamine maleate..... 4 mg.
Bottles of 50 and 250 tablets.

Usual dose: Two tablets, morning and evening. For mild cases (and children), 1 tablet. Occasional patients may require a third daily dose, which can be safely given.

†Trademark

PITMAN-MOORE COMPANY
DIVISION OF ALLIED LABORATORIES, INC.
INDIANAPOLIS 6, INDIANA

bring some qualms. But watching the bed-making, says the Japan Tourist Association, should prove eminently edifying and reassuring to such people.

Two—sometimes three—fluffy quilts, their softness maintained by daily sunning, are first laid on the "tatami" over which comes a white sheet, freshly laundered. The silken quilt, also enclosed in white, may be light or heavy depending on the season and the pillow, usually of soft foam-rubber, should prove satisfactory for even the most hard-headed guest.

Tipping If no service charge has been added to your bill, on your day of departure you will be expected to enclose an amount equal to 10-15 percent of the total charges in an envelope and hand it to the maid who has served your room. She will see to it that the amount is properly distributed. The envelope is important as it is not considered in good taste to hand money directly to someone who has served you. Special decorative envelopes bearing the traditional "noshi" gift insignia can usually

---

TO OUR READERS: You are avid travelers—as statistics show—taking trips for pleasure and relaxation as well as to attend professional meetings in this country and abroad. In addition, you often prescribe travel for your patients. Thus, the purpose of this department is to give you concise, practical information about one of your strong interests — travel. As a special service, this section will carry each month a calendar of important forthcoming national and international medical meetings.



Novahistine®
EXPECTORANT

combines the decongestive effects of Novahistine and the cough-control action of dihydrocodeinone with the liquefying, expectorant action of ammonium chloride.

Each 5 cc. teaspoonful contains:

Phenylephrine hydrochloride	10.0 mg.
Prophenpyridamine maleate	12.5 mg.
Dihydrocodeinone bitartrate	1.66 mg.
Ammonium chloride	135.0 mg.
Sodium citrate	84.5 mg.
Chloroform (approx.)	13.5 mg.
l-Menthol	1.0 mg.

(Alcohol 5%)

Dosage: Adults—2 teaspoonfuls, three or four times daily. Children—½ the adult dose. Infants—¼ to ½ teaspoonful, three or four times a day.

Supplied in pint and gallon bottles.

PITMAN-MOORE COMPANY
DIVISION OF ALLIED LABORATORIES, INC.
INDIANAPOLIS 6, INDIANA

and...in colds
complicated by
useless, exhausting
coughs



Novahistine-DH*
(fortified Novahistine with dihydrocodeinone)

When "head colds" become "chest colds" Novahistine-DH promptly controls coughs and keeps air passages of both head and chest clear of obstruction.

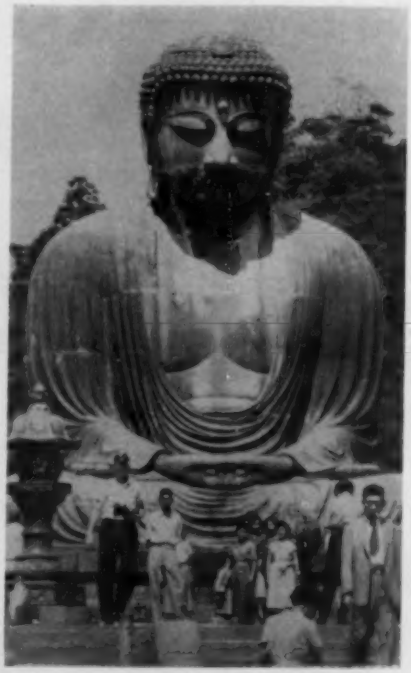
Each teaspoonful (5 cc.) of grape-flavored Novahistine-DH contains:

Phenylephrine hydrochloride	10 mg.
Prophenpyridamine maleate	12.5 mg.
Dihydrocodeinone bitartrate	1.66 mg.
Chloroform (approx.)	13.5 mg.
l-Menthol	1.0 mg.

Supplied in pint and gallon bottles.

*Trademark

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The Great Buddha of Kamakura is said to be the most photographed subject in Far East. Made of bronze, it weighs 210,000 pounds.

be secured from the desk of the inn for this purpose.

It is only in some of these old style inns, incidentally, that you are likely to be called on to tip. Waiters with itching palms and bellhops with mercenary motives are practically unknown in Japan. This alone can provide the traveling American with a novel experience.

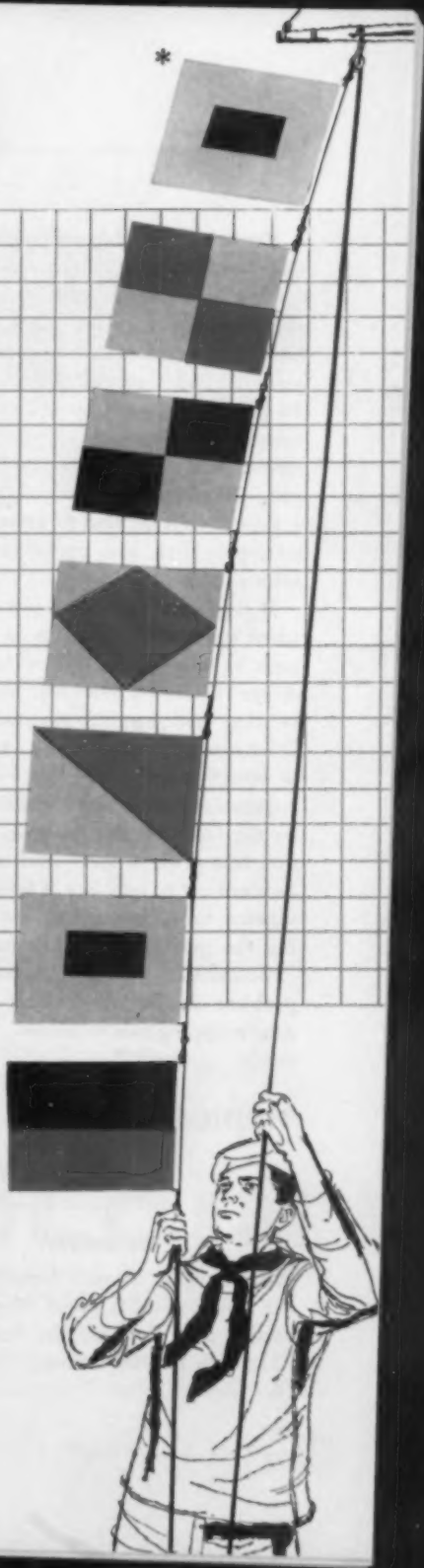
Most hotels add a 10 percent service charge, which is distributed among employees who have served you. Taxi drivers and redcaps do their jobs without looking for tips.

In urinary-tract infections

HIGH TISSUE LEVELS

HIGH BLOOD LEVELS

LOW TOXICITY



**International Code flags spelling* SULFOSE.

SUSPENSION TABLETS

SULFOSE®

Triple Sulfonamides, Wyeth
(*Trisulfapyrimidines: Sulfadiazine, Sulfamerazine, Sulfamethazine*)

PHYSICIANS' COUNCIL

This advertisement conforms to the Code for Advertising of the Physicians' Council for Information on Child Health.

Wyeth®
Philadelphia 1, Pa.

Restaurants Japanese restaurants, too, favor service charges rather than tipping. Whether you patronize a simple coffee shop, tea room, tempura bar or a deluxe restaurant or night club, you will find a service charge of about 10 per cent added to your check. This completely takes care of waiters, waitresses, busboys and even the hat check girl. Should you be planning to take in a show, you'll be glad to know that the no-tipping rule also applies to theater ushers.

It is proper to offer a gratuity only when some special service is rendered such as when, on a motor tour, your driver conducts you for hours over twisting and turning mountain roads. Otherwise, the fixed charge takes care of everything.

Japan's "no-tipping" code is based on the fact that the Japanese by tradition take pride in their work and therefore are apt to consider it beneath their dignity to accept extra remuneration for the performance of regular tasks.

Gratuities, therefore, represent no problem in Japan. There's just one simple tipping rule to follow. "When in doubt . . . don't!"

IMMUNIZATION INFORMATION

A new edition of the booklet "Immunization Information for International Travel" has been issued by the Public Health Service, Department of Health, Education, and Welfare.

The booklet is designed primarily for use of travelers going abroad and for health departments and physicians. It gives current details on immunization requirements for persons entering the United States, including Americans returning from abroad. It also lists requirements and recommendations for immunization in 200 other countries, and in some cases, additional recommendations of the Public Health Service for American travelers.

Information on bringing pets into the United States from other countries is included in a special section.

Prepared by the Division of Foreign Quarantine of the Public Health Service, the booklet is for sale by the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Price is 30 cents.

MEDICAL TIMES

Calendar of Meetings

December

Minneapolis, Minn.: American Medical Association, Clinical Meeting, December 2-5. *Contact:* Dr. George Lull, 535 North Dearborn Street, Chicago 10, Ill.

New York, N. Y.: Association for Research in Nervous and Mental Diseases, December 12-13. *Contact:* Dr. Rollo J. Masselink, 700 W. 168th Street, New York 32, N. Y.

The man with an ulcer came to dinner



. . . free to choose any cuisine

. . . came and went without discomfort or pain

After prolonged clinical trials, Rosenblum reports: "Adequate relief was obtained in 97 per cent of the [145] patients treated with [PEPULCIN] and a full diet. . . . All patients who benefited had relief within 24 to 48 hours . . . and in practically all cases were symptom-free during the period of study. The clinical response was supported by follow-up roentgen studies."[1]

- combines antisecretory, antacid, antihemorrhagic actions
- requires but few doses daily
- shows no evidence of blood, renal, or hepatic toxicity

Rosenblum, L.A.: Am. J. Gastroenterol. *28*:507 (Nov.) 1957.

PEPULCIN®

Scopolamine Methyl Nitrate, Aluminum Hydroxide, Magnesium Hydroxide, and Ascorbic Acid

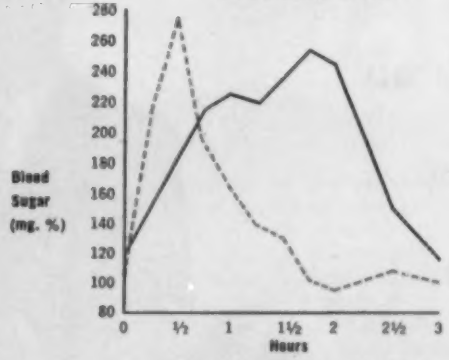
Supplied: Tablets, bottles of 100.

For further information, write Professional Service Department, Ives-Cameron Company, Philadelphia 1, Pa.

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CLINICAL BRIEFS FOR MODERN PRACTICE



besides diabetes, what diseases may cause symptoms of polyuria, polydipsia, increased fatigability and loss of weight?

Various renal diseases with isosthenuria, portal obstruction, functional dipsomania, hyperparathyroidism, acromegaly, primary aldosteronism, chronic mercury poisoning, hypervitaminoses A or D, Hand-Schüller-Christian lipoidosis, fructosuria, pentosuria and sucrosuria.*

COLOR-CALIBRATED CLINITEST® BRAND *Reagent Tablets*

the STANDARDIZED urine-sugar test for reliable quantitative estimations

- full color calibration, clear-cut color changes
- established "plus" system covers entire critical range
- standard blue-to-orange spectrum long familiar to diabetics
- unvarying, laboratory-controlled color scale

AMES COMPANY, INC • ELKHART, INDIANA
Ames Company of Canada, Ltd., Toronto

42989

January, 1959

Miami Beach, Fla.: International College of Surgeons, Southeastern Regional Meeting, January 4-7. *Contact:* Dr. Harold O. Hallstrand, 7210 Red Road, South Miami, Fla.

February

Montreal, Can.: Central Surgical Association, February 19-21. *Contact:* Dr. A. D. McLachlin, Victoria Hospital, London, Ontario.

Chicago, Ill.: American Academy of Allergy, February 9-11. *Contact:* Dr. Bram Rose, Royal Victoria Hospital, Montreal, Quebec.

March

Hot Springs, Va.: American Broncho-Esophagological Association, March 8-9. *Contact:* Dr. F. Johnson Putney, 1712 Locust Street, Philadelphia 3, Pa.

San Francisco, Cal.: American College of Allergists, March 15-20. *Contact:* Dr. M. Coleman Harris, 450 Sutter St., San Francisco.

April

San Francisco, Cal.: American Academy of General Practice, April 6-9. *Contact:* Mr. Mac F. Cahal, Executive Secretary, Volker Blvd. at Brookside, Kansas City 12, Mo.

Miami, Fla.: Congress of International Anesthesia Research Society, April 20-23. *Contact:* Dr. A. William Friend, East 107 and Park Lane, Cleveland 6.

May

Dusseldorf, Germany: Conference on International Union for Health Education of the Public, May 2-9. *Contact:* Secretary-General, 92 rue St. Denis, Paris 1, France.

Atlantic City, N. J.: American Psychosomatic Society, May 2-3. *Contact:* Dr. Morton F. Reiser, 265 Nassau Road, Roosevelt, N. Y.

Atlantic City, N. J.: Association of American Physicians, May 5-6. *Contact:* Dr. Paul B. Beeson, Yale University School of Medicine, New Haven 11, Conn.

MODERN THERAPEUTICS

The Use of Phenergan in Obstetrics

Since Phenergan hydrochloride has been shown to act effectively as presurgical sedation, the authors were interested in discovering whether the drug would react favorably if given to a patient in labor. One hundred fifty unselected private and ward patients in active labor were given 25 mg. of Phenergan and 75 mg. of Demerol. One hundred women were observed as controls, and were not given Phenergan. The analgesic effect was graded as excellent in 94 patients; good in 45; fair in seven, and poor in four. In the 100 women who acted as controls, and received the same amount of Demerol and scopolamine, the analgesic effect was rated as excellent in 40; good in 20; fair in 25, and poor in 15. Comparative figures of the length of labor was twelve and one-half hours in the 90 primigravidas and just over six hours in the 60 multigravidas. In the control group, labor lasted 16 hours in the 60 primigravidas and eight hours in the multividas. In the case of the mothers who had received Phenergan, 93 percent of the babies cried spontaneously; six percent cried after external stimulation, and one percent required oxygen. In the second group, the corresponding percentages were 61, 25, and 12, with two percent in need of active resuscitation. There were no fetal deaths. As a result of their observations on the use of Phenergan, the authors list: (1) relief of emotional stress and apprehension, (2) satisfactory analgesic effect, (3) no uterine inertia, (4) lowered incidence of nausea and vomiting, (5) shortened period of labor, (6) no untoward blood pressure variation, either systolic or diastolic, (7) no tachycardia, (8) absence of postpartum mental depression, (9) no postpartum hemorrhage, (10) no allergic reaction, and (11) no localized pain, tenderness, swelling, or infection at the site of injection.

William F. Fitzgerald
New York State Journal of Medicine, 58:1514 (1958)

Peptic Ulcer Therapy

The question of treating peptic ulcers without restrictions on diet, alcohol and tobacco is currently receiving considerable attention. In the author's investigation sixty patients with confirmed diagnoses of peptic ulcer were used in the study. Regardless of the duration of their disease, all patients were treated in the same way, i.e., no restrictions were placed on food, alcohol or tobacco. All patients were given a tablet or a teaspoon of an aluminum hydroxide preparation every hour on the half-hour except at mealtime. In most cases, anticholinergics or antispasmodics were administered for a time at the beginning of the study. Since large doses of aluminum hydroxide are constipating, it was combined with magnesium trisilicate with very satisfactory results. The patients were continued on the

—Continued on page 164a



"knee-itis"

there's pain
and inflammation here...
it could be mild or
severe, acute or chronic,
primary or secondary fibrositis
or even early
rheumatoid arthritis

...in any case
it calls for

Sigmagen

Tablets

more potent and comprehensive treatment than salicylate alone

... assured anti-inflammatory effect of low-dosage corticosteroid [1]

... additive antirheumatic action of corticosteroid plus salicylate [2-5]

brings rapid pain relief; aids restoration of function

more easily manageable corticosteroid dosage

... much less likelihood of treatment-interrupting side effects [1-5]

Composition

METICORTEN® (prednisone)	0.75 mg.
Acetylsalicylic acid	325 mg.
Aluminum hydroxide	75 mg.
Ascorbic acid	20 mg.

Packaging: SIGMAGEN® Tablets, bottles of 100 and 1000.

References: 1. Spies, T. D., *et al.*: J.A.M.A. 159:645, 1955. 2. Spies, T. D., *et al.*: Postgrad. Med. 17:1, 1955. 3. Gelli, G., and Della Santa, L.: Minerva Pediat. 7:1456, 1955. 4. Guerra, F.: Fed. Proc. 12:326, 1953. 5. Busse, E. A.: Clin. Med. 2:1105, 1955. 6. Sticker, R. B.: Panel Discussion, Ohio State M. J. 52:1037, 1956.

Complete information on the use of SIGMAGEN available on request.

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SCHERING CORPORATION • BLOOMFIELD, N. J.

S-0-2-150

—Continued from page 162a

regular dosage for four months after which it was gradually withdrawn over a period of two months. According to the report, only two patients in the group failed to achieve excellent results. These two individuals were greatly improved for a period of months only, after which surgery was indicated. Unrestricted diet when accompanied by proper therapy appears to be a successful method of dealing with acute peptic ulcer. When magnesium trisilicate is added to aluminum hydroxide, the constipation ceases to be a problem.

Victor Siegel

Journal of the Medical Society of New Jersey, 55:480 (1958)

Vaginal Moniliasis Treated with Nystatin

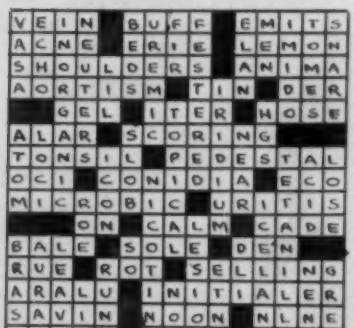
A group of 38 obstetric and gynecologic patients were selected for a trial of a new antifungal antibiotic-Nystatin. In all cases the confirmed diagnosis was monilial vaginitis due to *Candida albicans*. Routine treatment consisted of the use of Nystatin vaginal tablets, containing 100,000 units of the drug in lactose base, once or twice daily over a period of two weeks. In seven cases, oral administration was used additionally. At the end of one week swabs from 27 patients were negative, as were cultures from nine patients at the end of two weeks. In the remaining two patients cultures were negative after six weeks of therapy. Striking results were obtained in the matter of subjective symptoms. Vaginal moniliasis was greatly relieved within one week in 31 cases, and, in all but five individuals, pruritus disappeared within two weeks. A recurrence of the organism was found in four patients, but clearance took place after a second course of Nystatin. Reference has been made in the literature to the increasing incidence of vaginal moniliasis. In view of this fact, together with the shortcomings of the various agents hitherto used in its treatment, the author states there is an obvious need for an effective drug which is free from undesirable properties and Nystatin seems to meet this requirement.

T. M. Abbas

Journal of Obstetrics and Gynecology, 65:430 (1958)

MEDICAL TEASERS

Solution to puzzle on page 51a



Cortisone Therapy in Syphilitic Interstitial Keratitis

As noted by the author, cortisone, during a ten-year period, has been suggested for many types of diseases of the eye. The author limits the use of cortisone to three conditions of the eye, namely, sympathetic ophthalmia, acne keratitis, and interstitial keratitis. He confines his report to the latter. Fifty

—Continued on page 166a

senile vaginitis

a common postmenopausal disorder caused by ovarian failure with accompanying estrogen deficiency

responds to the restoration of physiologic stimulation... rejuvenation of the atrophied mucosa to a more normal, healthy state that resists irritation... and drop in vaginal pH ...through local application of estrogen with

"Premarin"

Vaginal Cream



Simplifies treatment... provides specific and effective therapy in senile and juvenile vaginitis. Pre- and postoperatively it restores the integrity of atrophied tissues, facilitates surgical procedures and favors healing. Also available with hydrocortisone as "Premarin" H-C Vaginal Cream, containing 1 mg. hydrocortisone, for immediate anti-inflammatory, antipruritic action when indicated to secure more rapid symptomatic relief, particularly in the initial stages of estrogen therapy of various vulvovaginal disorders.

"Premarin"® conjugated estrogens (equine) AYERST LABORATORIES, New York 16, N.Y.; Montreal, Canada

5861

—Continued from page 164a

patients in whom 84 eyes were treated comprised the group whose members have been under observation for more than four years, although the majority of them have received no treatment recently. Topical treatment was employed in all cases. The drug is not absorbed systemically from local therapy, so there is no risk of side-effects. Cortisone is used by drops, by ointment, or by a combination of both. The medication is applied every two hours until the eye becomes white and comfortable—usually within four or five days. After this, treatment is continued at four-hourly intervals for four weeks; it is then gradually reduced to eight-hourly periods, and then to twice daily. If there is no recurrence of the condition after four weeks of cortisone administration twice daily, the drug may be discontinued. If there is no return of symptoms within a three-month period after the cortisone has been discontinued, it may be assumed that treatment has been adequate, and chances of a later relapse are slight. Of the group treated, 24 patients (38 eyes) had no return of symptoms; all had had rapid relief with no irritation or photophobia. They were able to get about unaided, to attend school or return to work. In the other patients, relapses were experienced because treatment was inadequate or had been discontinued too soon. Control was rapidly regained by resumption of the treatment. The author further states that local treatment with cortisone gives freedom from symptoms, a good expectation of a 6/6 visual acuity, and no scarring or so little that it does not interfere with visual acuity.

A. N. Ashworth

British Journal of Venereal Diseases, 34:83 (1958)

Epilepsy in Children Treated with Acetazolamide

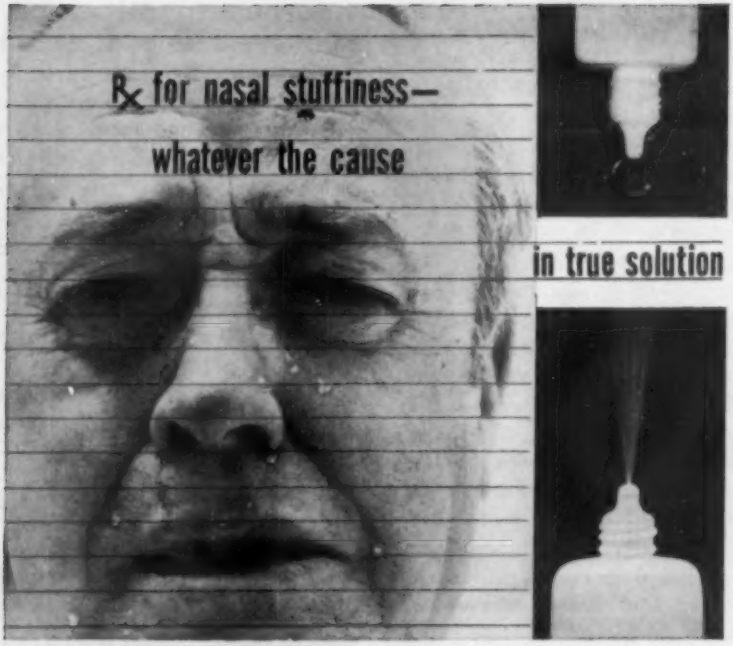
After noting reports on the effectiveness of acetazolamide (Diamox) in the control of epilepsy, the authors made their own clinical test of the drug. Diamox was administered as a general anticonvulsant to 56 intractable epileptics, outpatients attending the clinic of the St. Louis Children's Hospital. Several types of seizures were represented in the group. None of these children had been satisfactorily controlled on routine anticonvulsants. The dosage ranged from 250 to 1,000 mg. per day. The clinical response was divided into three groups: (A) patients completely controlled by Diamox for variable periods, (B) patients in whom seizures were reduced by 50 percent or more, and (C) patients who responded unsatisfactorily. Group A contained 35 patients: of these, 19 had complete remissions lasting from two to 20 months; 15 had temporary remissions, but the seizures were less severe and less frequent; the remaining patient had good control for three months, but the drug had to be discontinued due to side-effects. Four of the nine patients in

—Continued on page 168a

MEDIQUIZ ANSWERS

(from page 69a)

1(2), 2(5), 3(4), 4(2), 5(4), 6(2), 7(1), 8(2), 9(1), 10(2), 11(3), 12(3).



JUST 2 SPRAYS* OF

NEO-HYDELTRASOL®

Prednisolone 21-phosphate with Propadrine®, Phenylephrine, and Neomycin

PROVIDE—the most valuable and most soluble of the topical steroids—prednisolone 21-phosphate (2000 times more soluble than hydrocortisone, prednisone or prednisolone), with phenylephrine and Propadrine® plus neomycin

for prompt, persistent and potent anti-inflammatory, antibiotic, decongestant action, to help re-establish normal drainage, breathing and mucosal function and at the same time actively combat secondary bacterial infection.

*DOSAGE: as spray—2 sprays into each nostril every 2-3 hours.
as drops—2 or 3 drops every 2-3 hours (invert bottle).

SUPPLIED: in 15 cc. plastic spray bottles.

MSD

MERCK SHARP & DOHME • Division of MERCK & CO., Inc., Philadelphia 1, Pa.

—Continued from page 166a

Group B had a reduction in seizures from many each day to several a week. In four others, the seizures continued to occur daily but with significant reduction in frequency and degree of severity. The ninth patient obtained temporary periods of control with Diamox in combination with another agent. The 12 patients in Group C who failed to respond were also unaffected by other drugs. Side-effects occurred in seven members of the group: in one instance the drug was discontinued, but in the others a reduction in dosage was sufficient. According to the authors, the prompt control of many cases of epilepsy of diverse types with few side-effects makes Diamox a valuable drug in the clinical management of that disorder.

J. Holowach and D. L. Thurston
Journal of Pediatrics,
53:160 (1958)

Cutaneous Lesions of Rheumatic Fever

Close personal observation of 233 cases of rheumatic fever in young adults showed that cutaneous changes actually due to this disease could be detected in 10.3 percent.

The dermatoses which could be ascribed to rheumatic fever were urticaria, purpura, erythema nososum, subcutaneous nodules, and erythema multiforme.

Erythema multiforme occurred in eight patients (3.4 percent). Half of these had the papular type; the balance had ringed lesions which were classified as erythema annulare of erythema marginatum.

The terminology of the ringed eruption of rheumatic fever in the literature is confusing. To reserve the term of erythema annulare rheumaticum to the flat type and erythema marginatum rheumaticum to the elevated type is impractical, particularly as many transitions can be found between the two types. The term "erythema multiforme rheumaticum (annular type)" is suggested for this group.

Erythema multiforme rheumaticum (annular type) is characteristic in its appearance, location and course. Its presence is strong evidence in favor of a diagnosis of rheumatic fever.

Orland Canizares
A.M.A. Archives of Dermatology,
Vol. 76, No. 6, P. 706

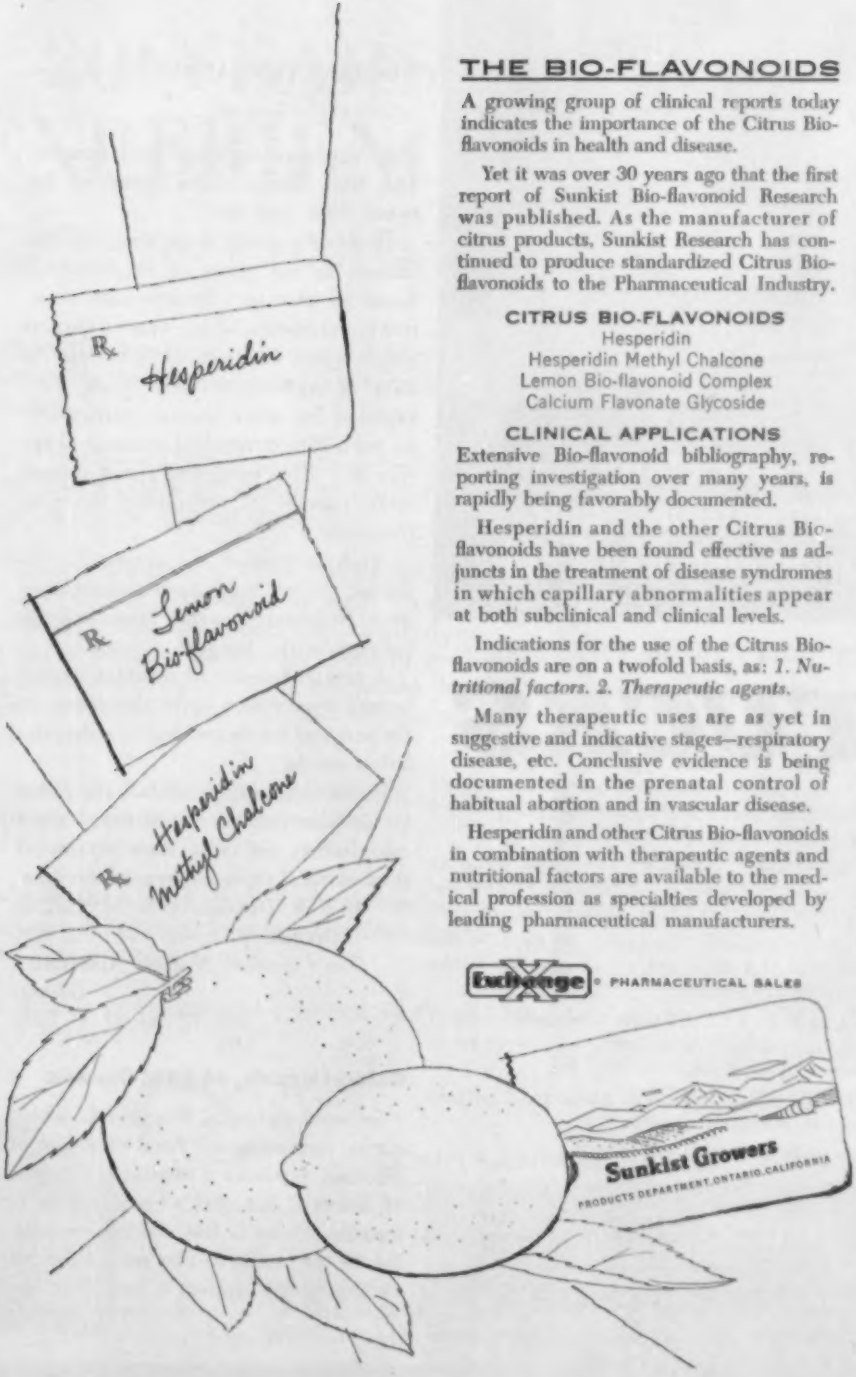
Nasal Carriage of Staphylococcus Pyogenes by Student Nurses

Nasal carriage of *staph. pyogenes* was investigated in one hundred and four student nurses during the first eight to eighteen months of their training and in fifteen laboratory workers. The strains found were identified by their antibiotic sensitivity patterns and bacteriophage types.

The patterns of carriage in fifty-one nurses intensively studied were: true carriers—59%, consisting of 16% constant and 43% intermittent carriers; non-carriers and trivial carries—41%, consisting of 35% occasional carriers and 6% non-carriers. The laboratory group showed similar patterns.

Only constant and intermittent carriers showed true carriage defined as consistent carriage of the same strain for several weeks. On this basis, there was no real change in carrier rates during the course of the survey even

—Continued on page 170a



THE BIO-FLAVONOIDS

A growing group of clinical reports today indicates the importance of the Citrus Bio-flavonoids in health and disease.

Yet it was over 30 years ago that the first report of Sunkist Bio-flavonoid Research was published. As the manufacturer of citrus products, Sunkist Research has continued to produce standardized Citrus Bio-flavonoids to the Pharmaceutical Industry.

CITRUS BIO-FLAVONOIDS

Hesperidin
Hesperidin Methyl Chalcone
Lemon Bio-flavonoid Complex
Calcium Flavonate Glycoside

CLINICAL APPLICATIONS

Extensive Bio-flavonoid bibliography, reporting investigation over many years, is rapidly being favorably documented.

Hesperidin and the other Citrus Bio-flavonoids have been found effective as adjuncts in the treatment of disease syndromes in which capillary abnormalities appear at both subclinical and clinical levels.

Indications for the use of the Citrus Bio-flavonoids are on a twofold basis, as: *1. Nutritional factors. 2. Therapeutic agents.*

Many therapeutic uses are as yet in suggestive and indicative stages—respiratory disease, etc. Conclusive evidence is being documented in the prenatal control of habitual abortion and in vascular disease.

Hesperidin and other Citrus Bio-flavonoids in combination with therapeutic agents and nutritional factors are available to the medical profession as specialties developed by leading pharmaceutical manufacturers.

Exchange PHARMACEUTICAL SALES



when your standing orders specify...

TUCKS®

Soft ready-to-use cotton flannel pads saturated with witch hazel (50%) and glycerine (10%), pH about 4.6.

As a dressing . . . *TUCKS cools and smooths traumatized tissue . . . without occlusive vehicles or "—caine" type anesthetics.*

In the hospital, Tucks can be kept by the bedside for frequent, easy changing by the patient or nurse.

As a wipe . . . *TUCKS takes the trauma out of cleansing tender tissue and encourages more thorough hygiene.*

TUCKS may also be sent home with patient for continuation of care.

jars of 40 and 100.

fuller PHARMACEUTICAL COMPANY
MINNEAPOLIS 16, MINNESOTA

For a generous sample of TUCKS—enough for several hospital patients—complete and return this card:

Name .....

Address .....

City ..... Zone ..... State .....

MODERN THERAPEUTICS

—Continued from page 168a

after exposure to ward environments. The true carrier rates remained between 30% and 40%.

During the survey there was a marked change in the types of staphylococci found in carriers. Strains fully sensitive to antibiotics, which were of various phage types, fell from 71% initially to 13% at eighteen months. They were replaced by other strains, particularly by penicillin-tetracycline resistant phage type 81. This particular strain seemed more capable of colonizing the nose than others.

Staphylococci of phage type 81, resistant to penicillin and tetracycline, were frequently isolated from infected patients in the hospital.

A greater number of resistant staphylococci were picked up by the nurses on the surgical wards and least on the islolation wards.

Preliminary experiments have failed to indicate why non-carriers resist colonization and why some strains of staphylococci replace others in the nose.

I. B. R. Duncan, Anne M. Collins, Elizabeth M. Neelin and T. E. Roy
The Canadian Medical Association Journal
Vol. 77, No. 11, P. 1008

Chlorothiazide, an Oral Diuretic

Injected mercurial compounds, which act by increasing the renal excretion of chloride, produces a satisfactory degree of diuresis, but oral administration in tolerated doses is less effective, according to the authors. The use of several non-mercurial diuretics has been re-

—Continued on page 172a

RIASOL

20 YEARS EXPERIENCE

IN PSORIASIS

RIASOL* has been used successfully for 20 years and is the preferred choice in treatment of psoriasis.

The success story is told in these before and after photographs of a case typical of those reported by the medical profession.

Treatment with RIASOL can offer immediate relief from the intolerable itching. Soon the scales begin to disappear and the red skin patches gradually fade away. Seldom are recurrences encountered with continued treatment, and no reports have been submitted on adverse reactions.

The RIASOL formulation includes a saponaceous combination of mercury (0.45%), phenol (0.5%) and cresol (0.75%).

Applications once daily, before retiring, by rubbing a thin film in gently after cleansing the skin. No bandages needed.

Available at pharmacies or direct in 4 and 8 fld. oz. bottles.

*T. M. Reg. U. S. Pat. Off.



Before Use of Riasol



After Use of Riasol



COMPLIMENTARY SAMPLE

For professional literature and a generous clinical trial package of RIASOL, write to

SHIELD LABORATORIES

Dept. MT-1158 12850 Mansfield Avenue, Detroit 27, Michigan

RIASOL FOR PSORIASIS

—Continued from page 170a

ported, and the authors relate their experience with one of them—chlorothiazide. Twenty-four patients, the majority of whom had congestive cardiac failure, were given chlorothiazide: the dosage was one gram at 8 AM and another at 4:30 PM. In maintenance dosage, the drug may be given intermittently on three or four days each week. In the 20 patients in the group, tests were made at regular intervals. The response to treatment was considered good in 14 patients and fair in seven, while three failed to respond. Except for one patient who developed malaise and anorexia, no toxic effects were observed. It was noted that several patients to whom mercurial compounds had been given without response were benefited by chlorothiazide. Also, a greater diuretic response was obtained when chlorothiazide and a mercurial compound were given in combination. The ideal diuretic, it is pointed out, does not exist, but it should: (1) be effective by mouth, (b) be as potent as a mercurial compound, (c) cause a proportionate loss of sodium, chloride, and water, (d) not induce any electrolyte imbalance, (e) not lose its effectiveness, and (f) be devoid of toxic effects. The article states that chlorothiazide meets many of these desiderata.

R.I.S. Bayliss et al.
Lancet, I:120,1958

Athletes and the Bioflavinoids

From College Station, Texas, comes a report on the effectiveness of the citrus bioflavinoid compounds in minimizing the severity of traumatic injuries sustained in contact sports. Citrus Vitamin P is a water-soluble bioflavinoid compound marketed as C. V. P. With the cooperation of the Texas A & M College Athletic Department, 60 varsity players took part in an investigation of the compound. They were divided into three groups, two of which were given Duo-C.V.P. capsules; one group received twice the amount given the other group, and the third untreated group acted as controls. According to the report observations made during the fall practice season were so favorable that during the following Spring training season the entire squad received the higher dosage of two Duo-C.V.P. capsules twice daily. The results in the treated group caused several members of the control group in the first test to ask for the "bruise pills." The results of examination of urine specimens before and after games to observe the control of hematuria were inconclusive; also, lacerations and fractures appeared unaffected. However, as a prophylactic measure, the C.V.P. capsules definitely minimized the severity of superficial injuries such as bruising, hematomas in the skin and muscle, sprains and strains. Especially in the case of the latter two, the men were able to return to active play sooner than would have been otherwise possible. The use of the bioflavi. oids has become routine for the Texas A & M squad, and their use is advocated by the authors for all athletes engaged in contact sports.

R. H. Harrison et al.
Clinical Medicine, June 1958

The Nutritive Value of Several Foods Grown at Different Locations

A study of the relative nutritive value of several foods grown at widely differing locations demonstrated the

—Continued on page 174a

TWO NEW PARAFLEX* PRODUCTS

FOR RHEUMATISM AND TRAUMATIC DISORDERS

PARAFON*

THE SPECIFIC MUSCLE RELAXANT PLUS
THE PREFERRED ANALGESIC

FOR ARTHRITIS

PARAFON* with PREDNISOLONE

Effective and well tolerated on the practical dosage of only 6 tablets daily.
PARAFON and PARAFON WITH PREDNISOLONE provide benefits that last for up to six hours.

PARAFON relieves pain, stiffness, and disability caused by rheumatism and traumatic disorders. PARAFON WITH PREDNISOLONE compounds this relief with anti-inflammatory action in treatment for arthritis.

supplied: PARAFON: Tablets, scored, pink, bottles of 50. Each tablet contains: PARAFLEX Chlorzoxazone* 125 mg., and TYLENOL* Acetaminophen 300 mg.
PARAFON WITH PREDNISOLONE: Tablets, scored, buff colored, bottles of 50.
Each tablet contains: PARAFLEX Chlorzoxazone 125 mg.,
TYLENOL Acetaminophen 300 mg., and prednisolone 1.0 mg.

precautions: The precautions and contraindications that apply to all steroids should be kept in mind when prescribing PARAFON WITH PREDNISOLONE.

trademarks Reg. U.S. Pat. Off.

McNEIL

McNeil Laboratories, Inc. • Philadelphia 32, Pa.

MODERN THERAPEUTICS———

—Continued from page 172a

superiority for the growing rat of turnip greens grown at Blairsville, Ga., in two different years. Turnip greens grown at two other locations—Experiment, Ga., and Raleigh, N. C.—were equivalent in nutritive value and definitely inferior to the Blairsville greens. No difference was observed in the nutritive value of corn and cowpeas which were tested similarly.

Supplementation studies, using these all-plant diets, to determine the reasons for the superiority of the Blairsville (B) over the Experiment (E) turnip greens showed that diets containing either greens were improved by the following supplements: egg albumin, methionine, vitamin B_{12}, and vitamin B_{12} + menthionine. Vitamin B_{12} was twice as effective a supplement as egg albumin or methionine, and vitamin B_{12} + methionine was no better than vitamin B_{12} alone. A complete vitamin mix (without vitamin B_{12}) significantly improved only diet E. The difference between the two greens was not in their mineral contents.

Vitamin B_{12}, or a substance with vitamin B_{12} activity for *Ochromonas malhamensis* and *Lactobacillus leichmannii*, was found in the B turnip greens; only negligible amounts were present in the E greens.

Microbiological analyses showed the B greens to contain slightly more methionine and cystine than the E greens.

This investigation showed that certain as-yet-undetermined factors associated with two different locations so influenced the composition of turnip

—Continued on page 176a



"Take me to your Leader."



the chill
the sneeze
the cough
the aches
the fever

in the common cold and other upper respiratory infections . . .

the only such preparation to contain penicillin V to curb bacterial complications . . .

action {
- **antibacterial**
- **analgesic**
- **antipyretic**
- **antihistaminic**
- **mood-stimulating**

Supplied: Capsules, vials of 36. Each capsule contains: penicillin V (100,000 units), 62.5 mg.; salicylamide, 194 mg.; promethazine HCl, 6.25 mg.; phenacetin, 130 mg.; mephentermine sulfate, 3 mg.

PEN·VEE·*Cidin*®

Penicillin V, Salicylamide, Promethazine Hydrochloride, Phenacetin, Mephentermine Sulfate

Wyeth®
Philadelphia 1, Pa.

—Continued from page 174a

greens grown there as to affect significantly their nutritive value for the animal. It also indicated that the principal difference between the two turnip greens was in that area of nutrition in which methionine, vitamin B_{12}, and several other vitamins have been shown to be interrelated.

Louise F. Gray, Mary Speirs and Gennard Matrone
The Journal of Nutrition, Vol. 63, No. 3, Pp. 556-57

Tranquilizer Used in Childbirth

Still another use has been made of one of the tranquilizers: to relieve pain and to produce relaxation during childbirth.

"She was put on Ritalin and immediately her attitude changed."*
clinical investigators report benefits and *safety* of
Ritalin® hydrochloride (methylphenidate hydrochloride CIBA)
see page 34a
*37-year-old female treated for depression due to breast cancer (Natenshon, A. L. Dis. Nerv. System 17:392 (Dec.) 1956)
CIBA SUMMIT, N. J.
7/2000MS

The drug promazine was given intravenously to 100 women by Drs. Stanley P. Wegryn and Robert A. Marks, New Orleans. Also given to the women were a spinal anesthesia and merperidine, a pain-relieving drug.

The authors said excellent results were achieved in 57 of the women and good results in 29.

Promazine has a "marked relaxing effect" and helps to prevent vomiting. It also seems to have some properties that help the patient to forget part or all of the labor, the doctors said.

They noted that the drug should not be given to persons with asthma, since it produces brief nasal and throat congestion.

The authors are in the department of obstetrics and gynecology, U. S. Public Health Service Hospital, New Orleans.
Stanley P. Wegryn and Robert A. Marks
Journal of the A.M.A.

The Prognosis of Urinary Infections in Childhood

We do not wish to generalize too widely from these figures, but it is possible to make some relevant observations in spite of the small numbers.

A urinary infection in a boy should give rise to suspicion that there is a renal anomaly present, and we agree with Anderson and Lund (1954) that in these circumstances excretion urography is indicated. Seven of the ten boys in this series had congenital deformities of the urinary tract.

Chronic or recurrent urinary infections are often associated with such deformities, but in two of our cases no anatomical lesions were found. This sort of patient would probably benefit from long-continued chemotherapy as

—Continued on page 178a



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Contents include:

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- the test with Regitine
- clinical experience
- published comment
- treatment of pheochromocytoma and additional information of particular interest

As a further effort to be of service to the medical profession, we now offer this brief treatise on a tumor that is of great significance pathologically. Complete with illustrations and graphic data, *The Test with Regitine® for Pheochromocytoma* can prove most valuable in your everyday practice. For your free copy, write Medical Service Division, CIBA, Summit, New Jersey.

REGITINE® (phentolamine CIBA)

MODERN THERAPEUTICS

—Continued from page 176a

advocated by Stansfeld and Webb (1954). Weyrauch and Rosenberg (1954), and Engel (1955).

Pyuria in infancy and childhood is not a simple and easily controlled condition. In this small series less than half the patients who had an attack six or seven years ago have remained completely well subsequently. We agree entirely with the opinions of other workers cited above about the sinister potentialities of such pyuria.

The condition of thirty-two patients who had a urinary infection in infancy or early childhood was determined six or seven years later.

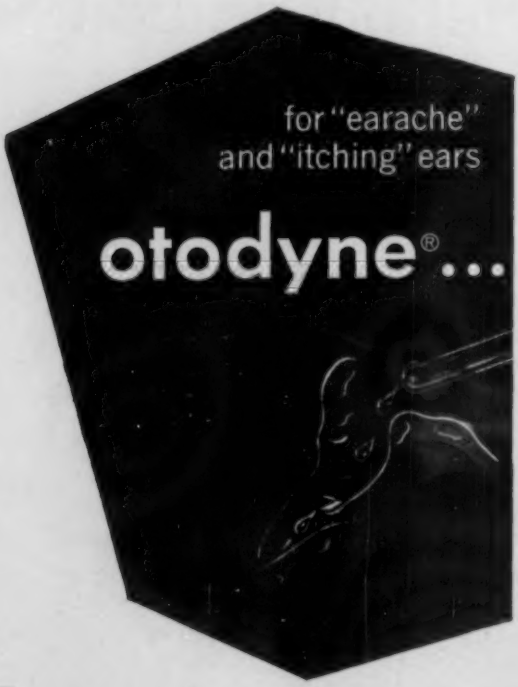
Five of them had died and were found to have gross organic deformities of the renal tract; one was untraced; thirteen were apparently normal; and thirteen had either recurrent or persistent signs of urinary infection.

Urinary infections in children should be regarded as potentially serious, and prolonged supervision of such cases is advocated.

Duncan Macaulay
and R. N. P. Sutton
The Lancet, No. 7009, Vol. II

Hypertension Treated with Pentacynium Bis-methylsulphate

Success in the treatment of hypertension with ganglion-blocking agents depends more on the doctor's manage-



Otodyne brings gratifying symptomatic relief in simple "earache" and in pruritic conditions of the external ear canal.

Quick-acting Zolamine (1%) and long-acting Eucupin® (0.1%) are combined in a polyethylene base which does not obscure anatomic landmarks.

In 15 cc. dropper bottles.

White Laboratories, Inc.
Kenilworth, N. J.

ment of the patient than on the use of any individual drug. The doctor must carefully guide the patient through the initial period of treatment when side-effects may be very troublesome. Pentacynium bis-methylsulphate (Presidal) was administered by injection and orally to a group of 30 severely hypertensive patients for periods from three to eighteen months. Hypertensive symptoms had been present from two weeks to ten years. After examination on admission, a test dose of pentacynium was given subcutaneously. This was followed by oral administration of Presidal, the amount being governed by the results of the test dose. The initial oral dose was 50 mg. three times daily. This was increased by 25 mg. every two days until an adequate response was obtained or until side-effects prevented further increase. Response to treatment was classified according to the average supine diastolic pressure. If this was maintained at less than 110 mm. Hg, the patient was regarded as a responder: on this basis, 24 members of the group were classified as responders. The oral daily requirement of pentacynium varied from 300 to 700 mg., and was usually administered in three doses. Where congestive heart failure was present before treatment, improvement was noted. The size of the heart was often reduced, and evidence of ventricular strain appeared lessened. As with similar agents, side-effects were due mainly to associated parasympathetic



PROVED EFFICACY IN "SWIMMER'S EAR"

OTOBIOTIC®

ANTIBACTERIAL-ANTIFUNGAL EAR DROPS

Rapidly eradicates otitis externa, frequently contracted during the swimming season. Unusually effective in pyogenic and mycotic infections of the external ear canal and in chronic otitis media.

Otobiotic has a physiologic pH and is virtually non-irritating and non-sensitizing. It does not distort the morphologic landmarks. Each cc. contains Neomycin (from the sulfate) 3.5 mg., sodium propionate 50 mg., in an hydroalcoholic-glycerin vehicle.

For rapid, prolonged relief of pain or itching of otitis, Rx Otodyne Ear Drops.

Each supplied: 15 cc. dropper-bottles.

White Laboratories, Inc. Kenilworth, New Jersey

—Continued from preceding page

blockade: nearly all patients experienced some discomfort during the early stages of treatment, but in only three instances was the therapy discontinued, according to the authors' report. Pentacynium appears to be an effective and useful agent in the treatment of severe hypertension.

C. S. McKendrick and P. O. Jones
Lancet, I:340, 1958.

Effect of Ascorbic Acid and of Orange Juice on Calcium and Phosphorus Metabolism of Women

The effects of orange juice and of ascorbic acid on calcium and phosphorus metabolism were investigated using twelve college women as experimental subjects. The study was divided into nine five-day periods. During the first three periods (basal I), all subjects were on the basal diet which provided a mean of 336 mg. calcium, 806 mg. phosphorus, and a calculated 22 mg. ascorbic acid daily. During the second three periods, for half of the subjects a supplement of 65 gm. of orange juice was provided at each meal and for the other subjects, 25 mg. crystalline scorbic acid. During the last three periods, the subjects were again on the unsupplemented basal diet (basal II).

For both groups of subjects, calcium absorption was significantly greater during the periods of supplementation than during the basal II periods. Urinary excretion of this element was increased both during the periods of supplementation and the basal II periods which followed when compared with that of the basal I periods.

Supplementation of the basal diet with orange juice or crystalline ascorbic acid resulted in calcium retention which was significantly greater than during the succeeding periods when only the basal diet was given.

Although the orange juice group absorbed and retained a somewhat greater amount of calcium than did the ascorbic acid group the differences were not statistically significant.

Neither orange juice nor ascorbic acid in the amounts given in this study influenced significantly phosphorus utilization by these subjects.

Calcium and phosphorus absorption were highly correlated during the basal I periods, but lower coefficients of correlation were obtained during the supplemented and basal II periods. Conversely, during the basal I periods there was a low correlation between calcium

—Continued on page 182a

Good results in depression and *"In no case [56 patients] was the liver function significantly altered by Ritalin."**

clinical investigators report benefits and *safety* of

Ritalin® hydrochloride (methylphenidate hydrochloride CIBA)

see page ▶ 34a

*Davidoff, E., Best, J. L., and McPheeters, H. L.: New York J. Med. 57:1753 (May 15) 1957

C I B A SUMMIT, N. J.

quiets
the cough
and calms
the patient . . .

Expectorant action
Antihistaminic action
Sedative action
Topical anesthetic action

PHENERGAN
EXPECTORANT

Promethazine Expectorant, Wyeth
With Codeine Plain (without Codeine)

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antitussive action equivalent to that of codeine without codeine's side-effects

PEDIATRIC
PHENERGAN EXPECTORANT
with Dextromethorphan, Wyeth

NEW non-narcotic pediatric formula

MODERN THERAPEUTICS

—Continued from page 180a

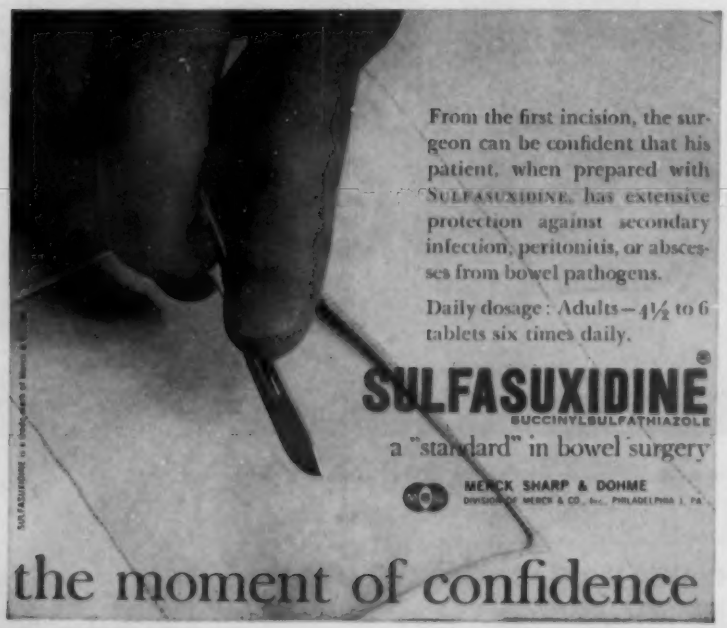
and phosphorus retention, which increased when either orange juice or crystalline ascorbic acid was added to the diet, with further increases during the basal II periods.

Jane M. Leichsenring, Loana M. Norris and Mary L. Halbert
The Journal of Nutrition,
Vol. 63, No. 3, Pp. 434-35.

Stuttering Treated with Meprobamate

In view of the handicap which stuttering presents, the application of drugs which allay states of anxiety merits consideration. Therefore, the authors decided to use meprobamate in support of the accepted methods of speech therapy since, in the adult, the speech cannot be corrected unless accompanying states of anxiety and tension are relieved. Eighteen patients were selected for treatment, all of whom had been treated with speech therapy previously without benefit. During a period of eight months, the routine dosage of meprobamate administered was one 400-mg. tablet three times daily. As a result of therapy, the response was excellent or good in 14 patients, slight in two, and without effect in two individuals. Stuttering is characterized by clonic and tonic interruptions in the breath stream, in a state of neuromuscular tension. Progression into adult life is accompanied by distortion of the personality because few adults suffering from this condition are free

—Continued on page 184a



help your patients maintain vitamin-mineral reserves

MYADEC®

high potency vitamin-mineral supplement

"THE INCIDENCE AND SEVERITY OF DEGENERATIVE DISEASE CAN BE LESSENED BY CAREFUL NUTRITIONAL BALANCE AND PROPER CONTROL OF METABOLIC ACTIVITY THROUGHOUT THE LIFE SPAN."

Chapman, L. E.: J. Am. Geriatrics Soc. 6:269, 1958

Each MYADEC Capsule provides the benefits of...

Nine vitamins:

Vitamin B_{12} crystalline	5 mcg.
Vitamin B_2 (riboflavin)	10 mg.
Vitamin B_6 (pyridoxine hydrochloride)	2 mg.
Vitamin B_1 mononitrate	10 mg.
Nicotinamide (niacinamide)	100 mg.
Vitamin C (ascorbic acid)	150 mg.
Vitamin A (7.5 mg.)	25,000 units
Vitamin D (25 mcg.)	1,000 units
Vitamin E (d-alpha-tocopheryl-acetate concentrate)	5 I.U.

Eleven minerals (as inorganic salts):

Iodine	0.15 mg.
Manganese	1.0 mg.
Cobalt	0.1 mg.
Potassium	5.0 mg.
Molybdenum	0.2 mg.
Iron	15.0 mg.
Copper	1.0 mg.
Zinc	1.5 mg.
Magnesium	6.0 mg.
Calcium	105.0 mg.
Phosphorus	80.0 mg.

Bottles of 30, 100, 250, and 1,000.

PARKE, DAVIS & COMPANY · DETROIT 32, MICHIGAN



MODERN THERAPEUTICS———

—Continued from page 182a

from hypersensitivity regarding their disability. The extent to which it prejudices their employment and social status cannot be minimized. Treatment of the adult stutterer is often disappointing, and is usually protracted. A drug which facilitates speech therapy and shortens the duration of treatment is of special value. The report states that meprobamate has been found very useful for this purpose. No toxic effects were observed among the group studied: it appears to be a comparatively safe drug. The object in using this type of drug is to interrupt the vicious circle of tension, speech inhibition, and consequent anxiety. By accomplishing this, patients become more accessible to speech therapy, and a better result can be obtained. The importance of the psychologic factor is shown by the fact that a placebo may occasionally be substituted successfully after the useful action of meprobamate has been demonstrated.

By R. D. H. Maxwell & J. W. Patterson

British Medical Journal, I:873, 1958

Psychiatric Patients Treated with Prochlorperazine

The author made a study of a phenothiazine compound, prochlorperazine, which was understood to be of value in relieving anxiety and tension states. The group of 109 patients in the study included children with behavior problems; psychotics who were assaultive, denudative, overactive, deluded, confused, and difficult to manage, and psychoneurotics with heightened tension, and numerous somatic complaints. After complete physical examinations, the patients were started on 10 mg. of pro-

—Continued on page 186a



the flavor of fruit and a broad spectrum antibiotic

SUMYCIN

TETRACYCLINE

syrup / aqueous drops



new Sumycin Syrup

An aqueous tetracycline suspension, phosphate potentiated, containing 125 mg. tetracycline (hydrochloride equivalent) per 5 cc. teaspoonful.

60 cc. bottles

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An aqueous tetracycline suspension, phosphate potentiated, containing 100 mg. tetracycline (hydrochloride equivalent) per cc.

10 cc. bottles with the new, unbreakable 'FLEXIDOSE' DROPPER

. . . delicious aqueous suspensions to assure patient acceptance for effective tetracycline therapy . . . children especially will like their tasty fruit flavor

Also available:	Tetracycline phosphate complex equiv. to tetracycline HCl (mg.)	Packaging:
Sumycin Capsules	250 mg. per capsule	Bottles of 16 and 100
Sumycin Half Strength Capsules	125 mg. per capsule	Bottles of 16 and 100
Sumycin Intramuscular with Xylocaine*	250 mg. per vial	1 dose vials
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'SUMYCIN'® AND 'FLEXIDOSE' ARE SQUIBB TRADEMARKS *T.M. © ASTRA PHARMACEUTICAL PRODUCTS, INC. FOR LIDOCAINE.

MODERN THERAPEUTICS———

—Continued from page 184a

chlorperazine, orally, to be taken at mealtime and bedtime. The dosage was increased by 10-20 mg. every other day until clinical improvement was effected or side-effects supervened. This same amount (10-20 mg.) was used intramuscularly every three to four hours to control undue agitation and excitement. The average daily oral maintenance dosage was 75-150 mg. for psychotics, and 30-75 mg. for psychoneurotics. When dosage had been stabilized, the drug was given in sustained release Spansules; the effect of each capsule lasted approximately 12 hours. Results in the entire group showed 77 patients to be free of active psychotic manifestations, able to function well socially and handle personal problems. Eleven individuals were able to return to society, earn a living, and to withstand the ordinary stresses of life. Thirteen patients showed an appreciable reduction in assaultiveness and hyperactivity, and a substantial decrease in delusions. The remaining eight persons showed only a slight diminution of symptoms. Only four children participated in the test, but according to the report, their response to the drug was sufficiently favorable to warrant the use of prochlorperazine for the problem child.

No serious side-effects were encountered.

Frank Wilcox

Diseases of the Nervous System, 19:118,1958

—Concluded on page 188a



For the constipated patient **past forty**

CHOBILE®

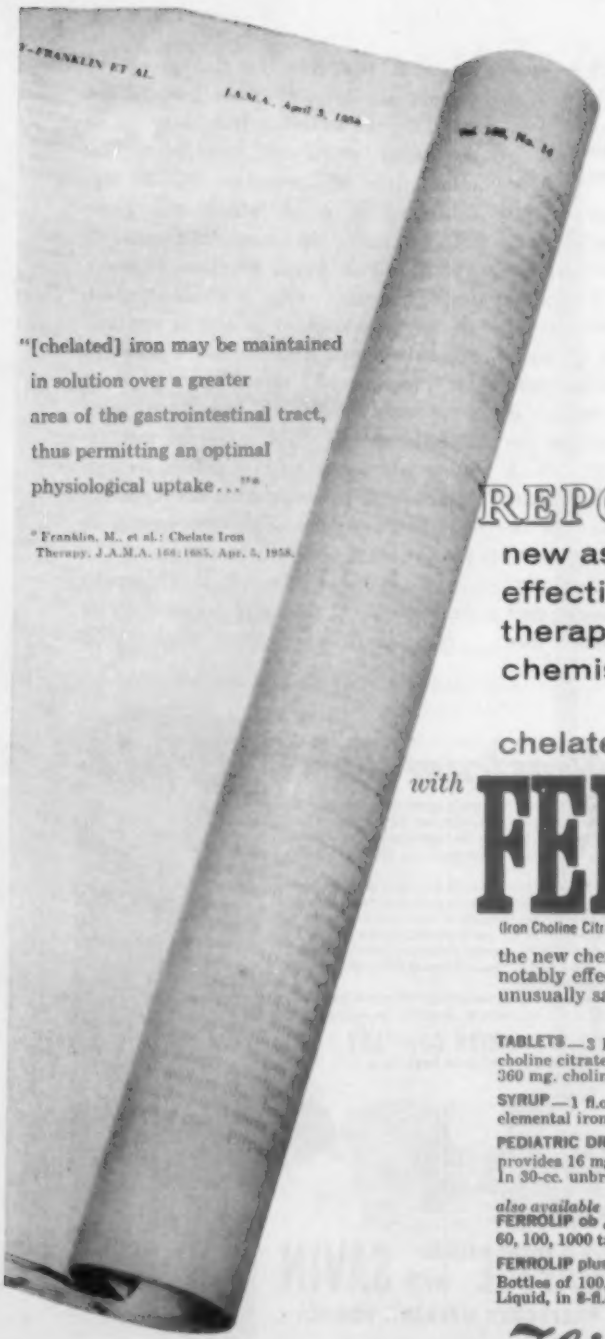


CHOBILE is biliary therapy—without cathartics. It increases motility of the intestinal tract and helps maintain colon water balance. This aids in preventing stool dehydration. Each CHOBILE tabule contains 1⅛ gr. cholic acid and 1½ gr. ketocholanic acids.

To serve your patients today—call your pharmacist for any additional information you may need to prescribe CHOBILE.

For prescription economy—prescribe CHOBILE in 50's.

Neisler Irwin, Neisler & Co. Decatur, Illinois



"[chelated] iron may be maintained in solution over a greater area of the gastrointestinal tract, thus permitting an optimal physiological uptake..."[*]

[*] Franklin, M., et al.: Chelate Iron Therapy, J.A.M.A. 166:1685, Apr. 5, 1958.

REPORTING...

new assurance of effectiveness in oral iron therapy—through the chemistry of chelation

chelate iron therapy *with*

FERROLIP®

(Iron Choline Citrate)

the new chemohematinic for oral iron therapy... notably effective...exceptionally well tolerated... unusually safe even on accidental overdosage

TABLETS—3 FERROLIP Tablets supply 1.0 Gm. iron choline citrate,† equiv. 120 mg. elemental iron, 360 mg. choline base. Bottles of 100, 1000.

SYRUP—1 fl.oz. FERROLIP Syrup provides 120 mg. elemental iron, equiv. 3 tablets. Pints, gallons.

PEDIATRIC DROPS—Each cc. FERROLIP Pediatric Drops provides 16 mg. elemental iron, 48 mg. choline base. In 30-cc. unbreakable plastic squeeze bottles.

also available

FERROLIP ob *during pregnancy*—Bottles of 60, 100, 1000 tablets.

FERROLIP plus *for macrocytic and microcytic anemias*—Bottles of 100, 1000 capsules. Also: FERROLIP plus Liquid, in 8-fl.oz., pint, and gallon bottles.

Flint, EATON & COMPANY
Decatur, Illinois

†U. S. Pat. 2,575,611

MODERN THERAPEUTICS

—Concluded from page 186a

The Use of Apresoline in the Third Trimester of Pregnancy

Reports in the literature on the effects produced by Apresoline (hydrazinophthalazine) in hypertensive disease caused the authors to observe the action of the drug when administered to 25 women in the third trimester of pregnancy. It is believed that the hypotensive result obtainable by Apresoline is due to an adrenolytic effect and to the abolition of central pressor stimuli. A reduction of both systolic and diastolic blood pressure has been shown in essential hypertension and preeclampsia; a significant increase in cerebral and renal blood flow has been demonstrated, and an increase in uterine blood flow appeared probable. In the group of women studied, all were hospitalized and all were suffering from toxemia in the latter weeks of pregnancy. The initial dose of Apresoline was 20 mg. contained in 1 ml. which was given intravenously. In most instances, a steady fall in blood pressure began a few minutes after administration, reached a maximum in one or one and one-half hours, and remained effective for three to four hours. Three injections were usually sufficient. Side-effects were infrequent and mild, and did not require withdrawal of medication. In general, the authors feel that the hypotensive effect of Apresoline was superior to that of other methods in use.

G. T. Johnson and R. B. Thompson
Journal of Obstetrics & Gynecology of the British Empire, 65:360,1958



Cardiovascular Disorders

As an adjunct to appropriate specific treatment, EQUANIL gives rapid, essential control of the psychic tensions that intensify and complicate cardiac and cardiovascular symptoms. "On control of the emotional complications [with EQUANIL in 41 varied patients], treatment in every case was less intensive and prolonged than ordinarily would have been expected."[1]

1. Friedlander, H.S.: Am. J. Cardiol. 1:395 (March) 1958.



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Meprobamate

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Philadelphia 1, Pa.

Relieves tension—mental and muscular

B-P
HALIMIDE*
the CONCENTRATE with the TWOFOLD ACTION
For Instrument Disinfection
BACTERICIDAL
—when diluted with water (except the tubercle bacillus)
TUBERCULOCIDAL also—
when diluted with alcohol
*Trademark of Bard-Parker Co., Inc.
PLUS—these other important advantages . . .
NON-CORROSIVE
—No anti-rust tablets to add.
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—Need not be changed frequently.
ECONOMICAL
—1 oz. makes 1 gal. of solution.
Bard-Parker HALIMIDE is the result of years of research to develop a concentrate combining maximum bactericidal potency and trouble-free performance. IT'S ECONOMICAL . . . *any way you look at it!*
LIST PRICE
4 oz. bottle..... $2.50
Please ask your dealer for quantity discounts.


B-P INSTRUMENT CONTAINER No. 300
Of stainless steel and PYREX glass with airtight cover. Ideal for use with B-P HALIMIDE.
PARKER, WHITE & HEYL, INC.
Danbury, Connecticut
HALIMIDE and your INSTRUMENTS . . . THEY COMPLIMENT EACH OTHER

DIAGNOSIS, PLEASE

(Answer from page 33a)

TUBERCULOSIS

Note the extensive papillitis as evidenced by destruction of the rims of the minor calices, associated with dilatation or narrowing of the infundibula. The preliminary film showed a few scattered calcifications in the regions of the papillae.

WHAT'S THE DOCTOR'S NAME?

(Answer from page 59a)

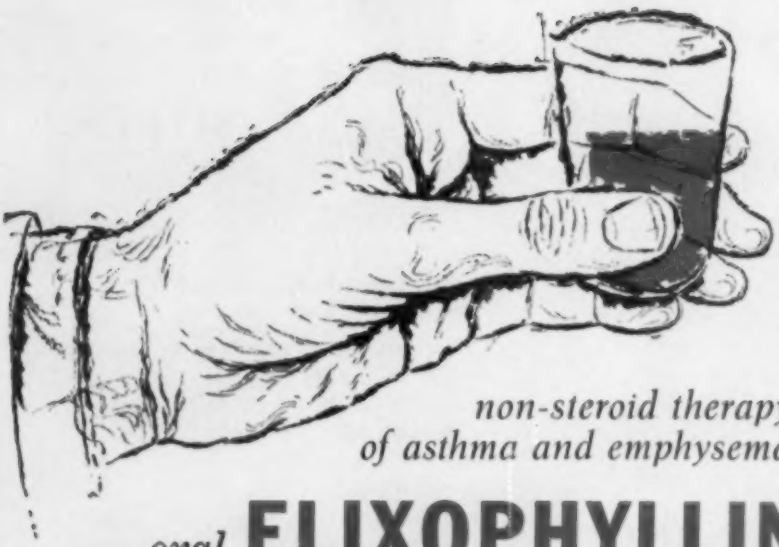
The doctor is John Hunter

WHAT'S YOUR VERDICT?

(Answer from page 37a)

The Supreme Court of Florida affirmed the decision of the trial court, holding: "If the instrument is a manufactured item, all in one piece, or rigidly assembled as in this instance and not intended for internal inspection for possible defects within, the liability, if any, for a latent defect would be on the manufacturer."

Based on decision of
SUPREME COURT OF FLORIDA



non-steroid therapy
of asthma and emphysema

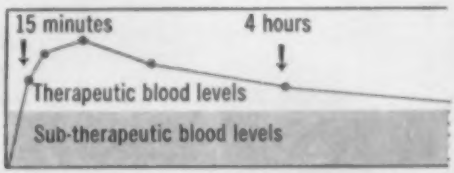
oral ELIXOPHYLLIN

Just as with I.V. aminophylline,* high theophylline blood levels *reached in minutes* – from a single dose.*

After absorption, theophylline is slowly eliminated. Therapeutic blood levels *endure for hours.**

This predictability of blood levels permits quite constant *therapeutic blood levels night and day*, providing relief of wheezing, dyspnea, cough, and protection against acute attacks for most patients.*

DOSAGE: *First two days:*
45 cc. *(three tbsp.)* on arising;
45 cc. *(three tbsp.)* on retiring;
45 cc. *(three tbsp.)* once midway between above doses *(about 3 P.M.)*



After two days of therapy the size of doses should be slightly decreased.
Each tablespoonful contains: theophylline 80 mg., alcohol 3 cc.
Prescription only – bottles of 16 fl. oz.

Sherman Laboratories
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Sulpho-lac
for ACNE and SEBORRHEIC DERMATITIS
KELGY
LABORATORIES
New York 53, N.Y.

"The pills the doctor gave me built me up fast. They were a lifesaver."*

clinical investigators report benefits and *safety* of

Ritalin® hydrochloride (methylphenidate hydrochloride CIBA)

see page ▶ 34a

*75-year-old carpenter treated for postcoronary depression. (Personal communication)

CIBA SUMMIT, N. J.

NEWS AND NOTES

Eye Protection Discussed by A.M.A. Committee

Suspicions that fluorescent lighting may be injurious to the eyes are unfounded, a committee of the American Medical Association said recently.

"Fluorescent lighting is not harmful to the eyes. It does not cause visual discomfort if properly installed, maintained, and used," the A.M.A. committee on industrial ophthalmology of the Council on Industrial Health said.

The study also revealed that:

—Ultraviolet energy from clear blue summer sky light is several times as great per foot-candle as fluorescent light.

—Light from some fluorescent lamps resembles daylight more closely than that from tungsten-filament lamps.

—Heat is the only known physiological effect produced from infrared energy found in present-day fluorescent lighting.

—Glare may occur in any lighting system and can be solved by proper installation and use.

—Noticeable flicker is usually eliminated in modern multiple tube fluorescent installations.

The committee recommends the use of guides set forth by the American Standards Association and the Illuminating Engineering Society to achieve the desired level of illumination.

—Continued on page 196a

"In our opinion, the most effective drug used in ulcerative colitis during recent years is Azulfidine."

D. J. Sandweiss and M. H. Sugarman: "What is new in the treatment of ulcerative colitis." J. Michigan State Med. Soc. 55:1461 (Dec.) 1956.

"The most valuable drug that has been introduced for the treatment of ulcerative colitis in the years that I have been interested in this problem is salicylazosulfapyridine."

J. A. Bargen: "The management of patients with ulcerative colitis", Med. clin. North America 1956 (March) p. 541.

Azulfidine

BRAND OF SALICYLAZOSULFAPYRIDINE

"Azulfidine is the drug of choice for ulcerative colitis."

L. E. Nelson: "Present-day concepts of the treatment of ulcerative colitis," Minnesota Med. 40:552 (Aug.) 1957.

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atmosphere of efficiency and confidence created by *Alma*. Send your rough floor plan to Alma for professional layout and design of your complete office, consultation room, waiting room and work areas.

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formed stools are produced 5 times faster[1]
lost electrolytes are replenished
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AROBON®—*carob powder...demulcent and adsorbent...contains no chemotherapeutics, no sedatives, no narcotics*

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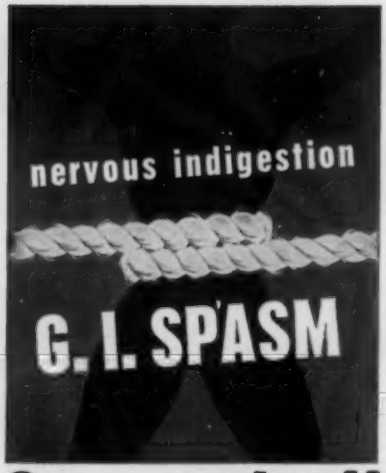
INTROMYCIN™—*carob powder plus Neomycin and Streptomycin... for infectious diarrheas*

Intromycin available in 2½ oz. bottles.

1. Abella, P. U.: J. Pediat. *41*:182, 1952.



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Fortified Digestive Enzymes
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Convertin-H fortifies gastric and pancreatic enzymes to aid digestion, and supplies an effective antispasmodic to combat the spasm.

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Each Convertin-H tablet contains:

In sugar-coated outer layer
Homatropine Methylbromide ....2.5 mg.
Betaine Hydrochloride.... .....130.0 mg.
(providing 5 minims diluted Hydrochloric Acid U.S.P.)
Oleoresin Ginger ..... 1/600 gr.

In enteric-coated inner core
Pancreatin (4 x U.S.P.).....62.5 mg.
(equiv. to Pancreatin U.S.P. 250 mg.)
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Supplied: In bottles of 84 and 500 tablets.

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Ethical Medicinals
KANSAS CITY, MO.

NEWS AND NOTES

—Continued from page 192a

In a second report to the council dealing with chemical eye injuries, the committee said, "Water is still the most universally available, effective, and practical emergency first-aid treatment of eyes injured by chemicals."

"Published reports of research in the use of buffered, neutralizing solutions," the committee said, "have failed to show superiority of buffer instillation over proper water irrigation."

Immediate and thorough flushing of chemicals from the eyes has brought about a tremendous saving of eyesight among industrial employees, they noted.

Need for Polio Vaccination During Pregnancy Stressed

Polio vaccination during pregnancy is important because it serves two purposes: combating the "extraordinary susceptibility" of pregnant women to the disease, and prolonging their infants' passive immunity.

These were the conclusions of five University of Minnesota researchers who studied 138 pregnant women. Their study is reported in a recent issue of the *Journal of the A.M.A.*

More than 65 per cent of the women were found to be incompletely protected against the disease. After receiving two Salk vaccine shots during pregnancy, the proportion dropped to 18 per cent.

Before receiving the shots, 33.1 per cent showed immunity to all three polio viruses; 58.6 per cent to one or two types, and 8.3 per cent to none. After the shots 82 per cent were immune to all three types.

—Continued on page 198a



PRE-MICRONIZATION assures particle size for maximum effectiveness

Medihaler-EPI® For quick relief of bronchospasm of any origin. More rapid than injected epinephrine in acute allergic attacks.

Epinephrine bitartrate, 7.0 mg. per cc., suspended in inert, nontoxic aerosol vehicle. Contains no alcohol. Each measured dose 0.15 mg. free epinephrine.

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MEDIHALER® *For Ample Air Right Now!*

Millions of asthmatic attacks have been aborted faster, more effectively, more economically with Medihaler-Epi and Medihaler-Iso. Automatically measured dosage and true nebulization... nothing to pour or measure... One inhalation usually gives prompt relief.

Prescribe Medihaler medication with Oral Adapter as first prescription. Refills available without Oral Adapter.

The Medihaler Principle of automatically measured-dose aerosol medications in spillproof, leakproof, shatterproof, vest-pocket size dispensers also available in Medihaler-Phen® (phenylephrine, hydrocortisone, phenylpropanolamine, neomycin) for prompt, lasting relief of nasal congestion.

Riker NORTHRIDGE, CALIFORNIA





NEWS AND NOTES

—Continued from page 196a

The study also indicated that vaccination during pregnancy lengthened immunity in newborn infants.

Dr. Zohman Appointed

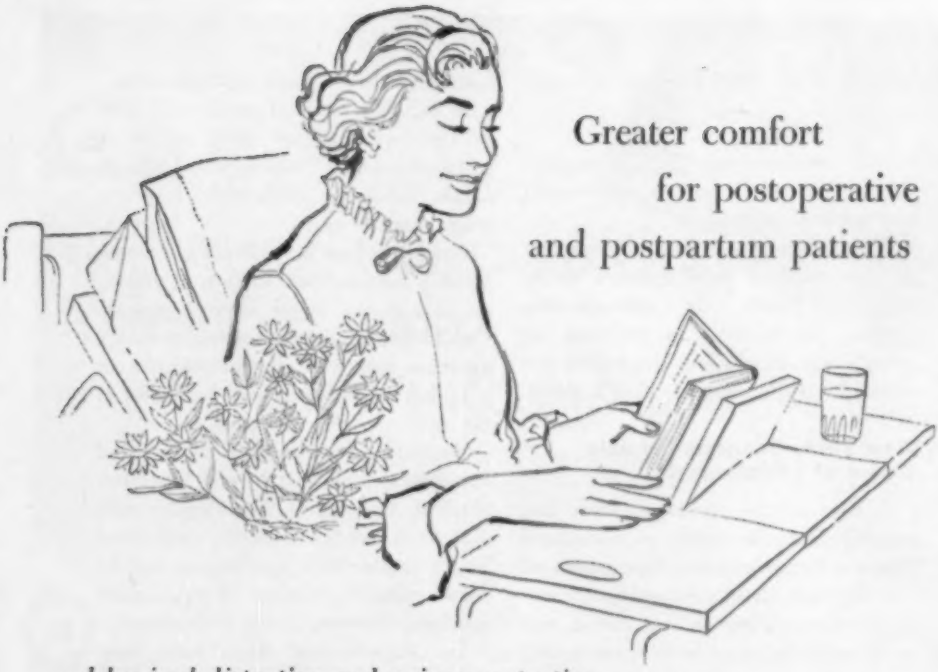
Burton L. Zohman, M. D. has been appointed Clinical Professor of Medicine at the State University College of Medicine at Brooklyn, New York.

Possible Effects of Neuraminic Acid

Dr. Samuel Bogoch of the Massachusetts Mental Health Center has been conducting an investigation of the possible influence of neuraminic acid, a substance with characteristics of both an amino acid and an amino sugar, on schizophrenia. The 300 persons studied have included those with schizophrenic and other psychotic disorders, as well as patients with various neurologic and non-neurologic disorders, and normal subjects.

Examination of the total content of neuraminic acid in the cerebrospinal fluid of normal subjects of various ages showed that the concentration of this substance increases in the first few years of life, reaching values found in normal adults by approximately seven years of age. The low concentration observed in schizophrenic adults was found to be comparable only to values found in some children under seven years old. These findings demonstrated low values in cerebrospinal fluid neuraminic acid in 93 percent of the schizophrenic patients examined and in but six per cent of non-schizophrenic adults. In some cases, an increase in the content of neuraminic acid has been found to accompany

—Continued on page 200a



Greater comfort for postoperative and postpartum patients

abdominal distention and urinary retention can often be prevented or promptly relieved — with less need for uncomfortable enemas and catheters

Urecholine.

Chloride
(Bethanechol Chloride)

'Urecholine' helps restore normal function after surgery and childbirth by increasing the muscular tone of the gastrointestinal and urinary tracts. Postoperative "gas" pains can frequently be prevented or promptly relieved—with less need for uncomfortable enemas, intubation, and suction apparatus. Micturition is facilitated—without the discomfort and risk of infection inherent in catheterization.

Administration and dosage: may be given prophylactically or therapeutically after surgery or childbirth. Usual oral dosage: 10 to 30 mg. three or four times daily. Usual subcutaneous dosage: 5 mg. three or four times daily.

Other indications: gastric atony and retention following vagotomy and other surgical procedures; chronic functional urinary retention due to atony without obstruction; megacolon, including congenital megacolon (Hirschsprung's disease); certain cases of paralytic ileus; to counteract side effects of antihypertensive ganglionic blocking drugs.

Supplied: 5 mg. and 10 mg. tablets, bottles of 100; 1-cc. ampuls containing 5 mg.

Urecholine is a trade-mark of MERCK & CO., Inc.

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—Continued from page 198a

clinical improvement, but the increase seldom brings the values appreciably into the normal range.

While a low neuraminic acid content in cerebrospinal fluid appears to be associated with the schizophrenic process, the evidence as yet does not permit any conclusions regarding the etiologic significances of these findings.

New Study Suggests Possible Cause of Schizophrenia

A new avenue of investigation into possible chemical causes of the mental illness schizophrenia has been suggested by a Harvard Medical School researcher.

Dr. Samuel Bogoch has found that adult schizophrenics have considerably less neuraminic acid—a component of the brain's gray matter—in the spinal cord fluid than do non-schizophrenics.

In fact, the levels of neuraminic acid in the cerebrospinal fluid of adult schizophrenics is "comparable only to values found in some children under seven years of age."

The low values in adult schizophrenic patients may indicate a form of chemical immaturity of the nervous system. This failure in chemical maturity would correlate well with clinical evidence of a failure of psychological maturity in the schizophrenic, he noted.

Writing in *Archives of Neurology and Psychiatry*, published by the American Medical Association, Dr. Bogoch said that more studies must be performed before any definite conclusions can be drawn regarding the use of neuraminic acid levels for diagnosing schizophrenia.

Dr. Bogoch said there have been many attempts to show some chemical

—Continued on page 202a

GLUKOR effective in 85% of cases.[1]
Glukor may be used regardless of age

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and/or pathology . . . without side effects . . . effective in men in IMPOTENCE, premature fatigue and aging.[2] GLUTEST for women in frigidity and fatigue.[3] Lit. available.

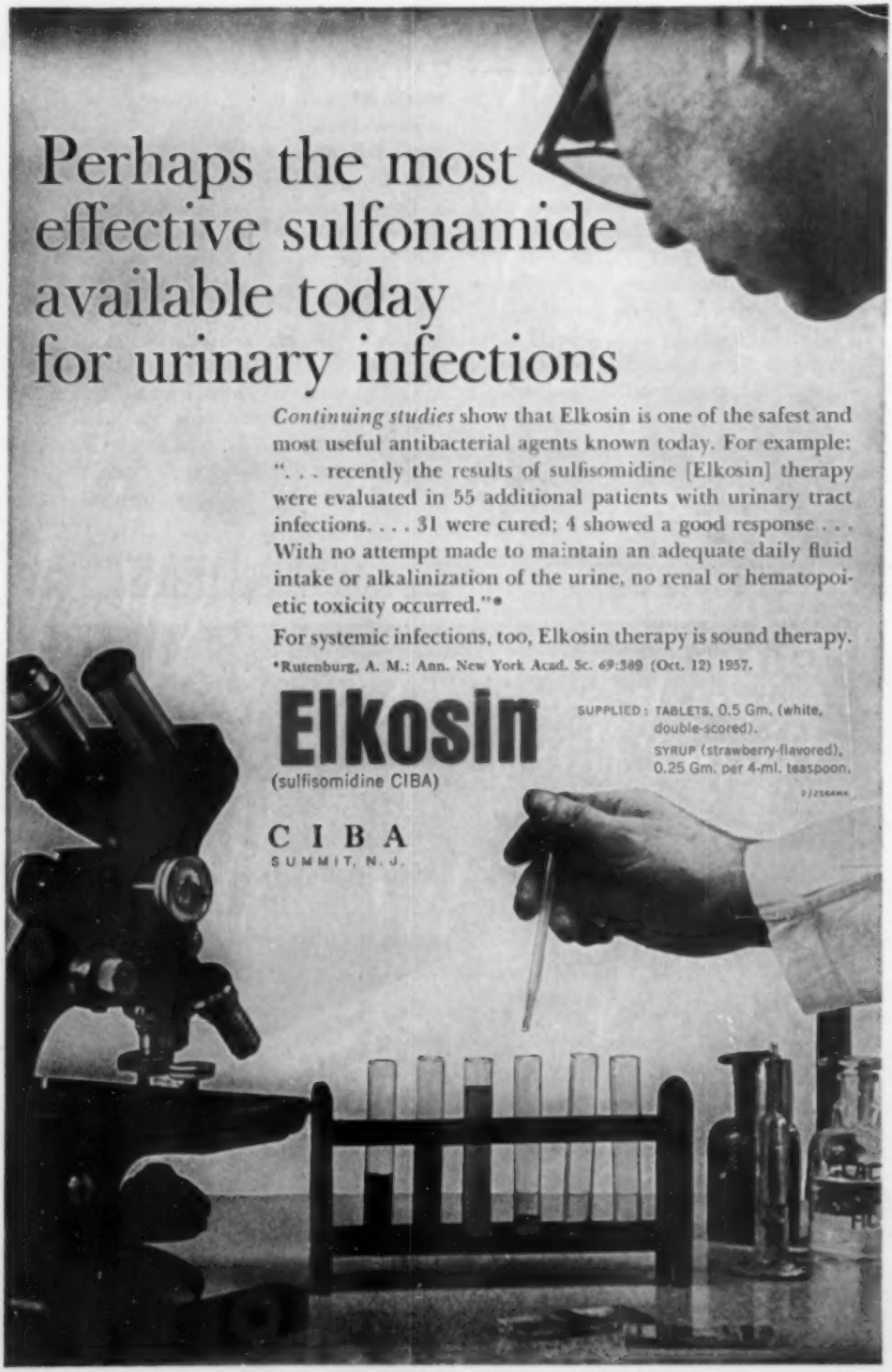
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The original synergistically fortified chorionic gonadotropin. Dose 1 cc IM — Supplied 10 & 25 cc vials.

1. *Gould, W. L.: Impotence, M. Times 84:302 Mar. '56.*
2. *Personal Communications from 110 Physicians.*
3. *Milhoan, A. W., Tri-State Med. Jour., Apr. '58.*

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Perhaps the most effective sulfonamide available today for urinary infections
Continuing studies show that Elkosin is one of the safest and most useful antibacterial agents known today. For example: ". . . recently the results of sulfisomidine [Elkosin] therapy were evaluated in 55 additional patients with urinary tract infections. . . . 31 were cured; 4 showed a good response . . . With no attempt made to maintain an adequate daily fluid intake or alkalinization of the urine, no renal or hematopoietic toxicity occurred."*
For systemic infections, too, Elkosin therapy is sound therapy.
*Rutenburg, A. M.: Ann. New York Acad. Sc. 69:389 (Oct. 12) 1957.
Elkosin
(sulfisomidine CIBA)
SUPPLIED: TABLETS, 0.5 Gm. (white, double-scored).
SYRUP (strawberry-flavored), 0.25 Gm. per 4-ml. teaspoon.
CIBA
SUMMIT, N. J.

NEWS AND NOTES

—Continued from page 200a

cause of schizophrenia through the study of blood and urine, but there has been no definite demonstration of a chemical disorder in the central nervous system proper.

Thus his findings present "an important new area for further investigation," he said. One thing to be learned is the meaning of a lowered value of neuraminic acid in the cerebrospinal fluid.

He studied the neuraminic acid concentrations in the cerebrospinal fluid of 29 adult schizophrenic patients; 72 children under the age of seven years; 29 children between the ages of seven and 15, and 65 non-schizophrenic adults.

He found that low values in adults correlated well with the diagnosis of schizophrenia, whether it be an acute first attack or a chronic process of more than 10 years duration.

The exact function of neuraminic acid in the nervous system is not definitely known, Dr. Bogoch said. It appears to play some role in the functions of the "blood brain barrier," which helps maintain the special environment of the brain.

He theorized that low neuraminic acid concentrations might affect the functioning of the barrier, which in turn could account for the brain's misfunctioning and the resulting psychotic state.

—Continued on page 204a





soothes

sore throats

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control

oropharyngeal

infections

"a bacteriostatic bath"[1] for the oropharyngeal mucosa

Orabiotic Chewing Troches provide a unique and valuable means of symptomatic relief and specific treatment in superficial bacterial infections of the mouth and throat.

Chewing ORABIOTIC spreads antibiotic-laden saliva over the entire oropharyngeal area and into the deeper mucosal recesses. Beneficial exercise of local muscles is provided by intermittent chewing and swallowing.

The outstanding anti-infective efficacy of ORABIOTIC has been demonstrated in 283 "post T&A" patients. The incidence of secondary hemorrhage—a sequel of local infection—was less than 1%.[1-3]

ORABIOTIC contains neomycin and gramicidin for wide-spectrum bactericidal and bacteriostatic action against those gram-positive and gram-negative bacteria responsible for the majority of superficial oropharyngeal infections. Propesin, an effective topical analgesic agent, superior to benzocaine, does not interfere with taste sensation.

ORABIOTIC is virtually nonirritating and nonsensitizing. These delicious cherry-flavored chewing gum troches are enjoyed by patients of all ages.

Each delicious chewing gum troche contains:

Neomycin (from sulfate)	3.5 mg.
Gramicidin	0.25 mg
Propesin (propyl p-aminobenzoate)	2.0 mg.

DOSAGE: One troche q.i.d. chewed for 10-15 minutes.
AVAILABILITY: Packages of 10 and 20.

1. Granberry, C., and Bratrous, W.P.: E.E.N.T. Mo. 36:294 (May) 1957.
2. Rittenhouse, E.A.: E.E.N.T. Mo. 36:406 (July) 1957.
3. Fox, S.L.: Clin. Med. 4:699 (June) 1957.



White's WHITE LABORATORIES, INC., Kenilworth, New Jersey

Analgesic/Antibiotic CHEWING GUM TROCHES

ORABIOTIC®

—Continued from page 202a

Furthermore, it may not be necessary to seek specific chemicals as causal agents of schizophrenia, he said. The "causal agents" may be normal substances produced by the body's physical and chemical process. These substances are usually prevented by the blood-brain barrier from coming into prolonged contact with the brain. However, if the barrier doesn't work correctly, the substances may contact the brain, interfering with its environment and producing mental illness.

Then the possession of an inadequately developed barrier system would represent a "specific vulnerability to psychosis," he said.

Dr. Bogoch believes that this hypothesis can be proved or disproved. In addition, he said that tests are now underway to determine the effect of the administration of neuraminic acid itself and of neuraminic-acid-containing substances to psychotic patients.

Dr. Bogoch is associated with the neurochemical research laboratory of the Massachusetts Mental Health Center, and the department of psychiatry, Harvard Medical School, Boston.

The Notorious Black Widow

After a comprehensive study of the Latrodectus genus spiders all over the world, which has been completed by Dr. Herbert W. Levi, Associate Curator of Arachnology at the Harvard Museum of Comparative Zoology, the New Englander need no longer assume that the black widow spider which is said to be found in the northern part of the United States in increasing numbers, is identical with its southern counterpart. The Doctor's painstaking studies have led him to the conclusion that five different species of the so-called black widow spider exist throughout the world.

The *Latrodectus mactans*, or "murderous biting robber" confines his activities to the Southern States, and appears to be the same species found in New Zealand, India, Africa, and the Mediterranean regions. His choice of habitat is near to man, hence the frequency of reported bites. While the venom of the "southern" black widow is more toxic than that of the rattlesnake, the small amount liberated per bite is seldom fatal: the victim suffers from severe muscular pain, profuse sweating, restlessness, and vomiting.

Since there has existed confusion in the differentiation of species between the *L. mactans* of the South and the L. *curacaviensis* found in the northern states, the exact degree of toxicity of the latter's bite is not known. However,

—Continued on page 206a

"She was put on Ritalin and immediately her attitude changed."*
clinical investigators report benefits and *safety* of
Ritalin® hydrochloride (methylphenidate hydrochloride CIBA)
see page 34a
*37-year-old female treated for depression due to breast cancer (Natenshon, A. L., Dis. Nerv. System 17:392 (Dec.) 1956)
CIBA SUMMIT, N. J.
2/2556MD

Whatever the peptic-ulcer regimen . . .

ANTACID THERAPY is fundamental



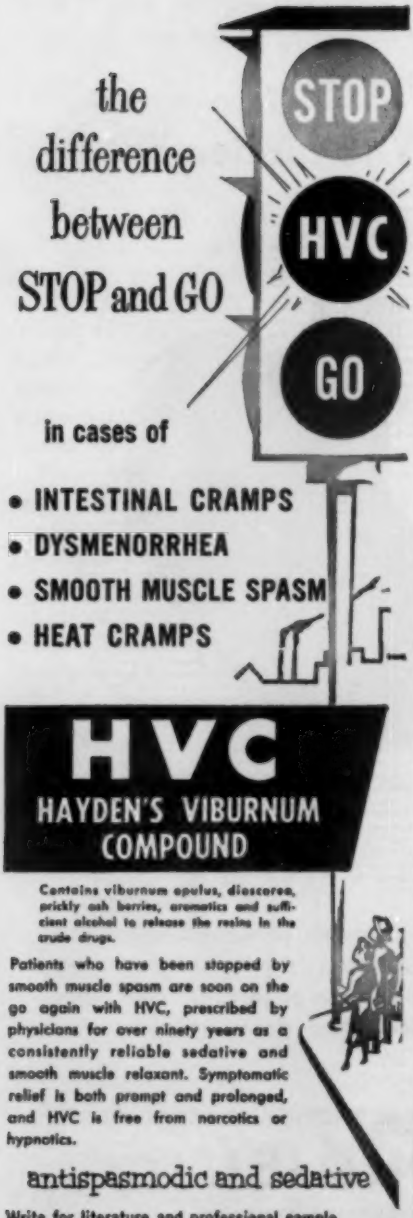
And AMPHOJEL—nonsystemic, nontoxic—provides time-proved fundamental therapy. It combines two aluminum hydroxide gels—one reactive, the other demulcent—for two specific purposes. The reactive gel promptly buffers gastric acidity. The demulcent gel promotes healing of denuded mucosa by forming a viscous, protective coagulum.

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Wyeth
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AMPHOJEL® double gel for diphasic action

Aluminum Hydroxide Gel, Wyeth



NEWS AND NOTES

—Continued from page 204a

his choice of habitat, unlike that of the southern "widow," is away from man in the woods and fields.

Dr. David S. Grice

Dr. David S. Grice, Assistant Clinical Professor of Orthopedic Surgery at Harvard University has been appointed Chairman of the University of Pennsylvania School of Medicine, Department of Orthopedic Surgery. Dr. Grice will succeed Dr. Paul C. Colonna who will retire to private practice following 16 years as chairman of that department. The Doctor's main field of interest is in the effects of poliomyelitis and the relationship of orthopedics to the crippling effects of this disease.

Radiation Hazards Studied

Working closely with the U. S. Atomic Energy Commission's Health and Safety Laboratory, Dr. Norton Nelson, Director of the Institute of Industrial Medicine at the New York University-Bellevue Medical Center, will have charge of a program concerned with the hazards of radiation as they are found in the environment, both as they affect the general population and as industrial applications create risks. The project has been made possible through a grant of $500,000 from the Rockefeller Foundation. It may be necessary to call on a diversity of sources for the necessary data: the ecologic movement of radioactive materials through intermediate hosts to man, human genetics, the epidemiology of radiation effects, and the physical and biologic factors

—Continued on page 208a



- decongests nasal mucosa
- quiets cough reflex
- decreases bronchial spasm
- soothes irritation
- pleases the taste

dual antihistaminic action

...an important reason for prescribing

AMBENYL® EXPECTORANT

for relief of coughs due to colds or allergies

One important benefit of AMBENYL EXPECTORANT in the treatment of coughs due to colds or allergies is its potent antihistaminic action, accomplished through two agents, Benadryl,® noted for its antihistaminic and antispasmodic effects, and Ambodryl® for its high antihistaminic activity.

per fluidounce:

Ambodryl hydrochloride (bromodiphenhydramine hydrochloride, Parke-Davis)	24 mg.
Benadryl hydrochloride (diphenhydramine hydrochloride, Parke-Davis)	56 mg.
Dihydrocodeinone bitartrate	¼ gr.
Ammonium chloride	8 gr.
Potassium guaiacolsulfonate	8 gr.
Menthol	q.s.
Alcohol	5%

dosage:

Every three or four hours – adults, 1 to 2 teaspoonfuls; children, ¼ to 1 teaspoonful.

Supplied in 16-ounce and 1-gallon bottles.

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After Ritalin:
*"... they were alert, fatigue disappeared, and they could go all day without tiring [89 patients]."**

clinical investigators report benefits and *safety* of

Ritalin® hydrochloride
(methylphenidate hydrochloride CIBA)

see page ▶ 34a

*Natenshon, A. L.: Dis. Nerv. System 17:392 (Dec.) 1956.

CIBA SUMMIT, N. J.

NEWS AND NOTES

—Continued from page 206a

which determine radiation dosage and tissue response.

Expanded Facilities at Duke University Medical Center

A program designed to "equip research-minded clinicians with the modern technics of scientific research as applied to medicine" will be inaugurated at Duke University Medical Center in July 1959. This somewhat unique venture in medical education is planned primarily to train medical students and hospital resident physicians in methods and use of research tools for modern scientific investigation, so that the physician will also be a skilled medical research scientist, thoroughly trained in the research technics developed and used in genetics, microbiology, pharmacology, biochemistry, zoology, chemistry, and physics.

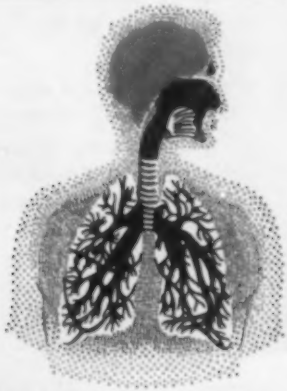
Facilities for the program will be housed in a new four-story addition to the Bell Medical Research Building at the Medical Center. Grants for the construction and equipping of the facility include: $215,000 from the National Institutes of Health; $200,000 from the John and Mary R. Markle Foundation of New York, and $87,500 appropriated by the Duke University Board of Trustees. The Commonwealth Fund of New York will partially finance the project during its first three years by grants totaling $225,000.

Harvard Medical School Expands

A grant of $1,126,000 in the form of a matching construction award has been received by the Harvard Medical

—Continued on page 210a

NOW—pleasant-tasting
'SUDAFED' brand **SYRUP**



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for
NASAL DECONGESTION PLUS

decongestion of the mucosa of the entire respiratory tract

- **QUICK RELIEF—15 TO 30 MINUTES**
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Syrup—30 mg. per 5 cc. teaspoonful

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, New York

—Continued from page 208a

School from the National Institute of Health. Complete remodeling of two wings of the principal building will greatly enlarge space for research activities.

Fatalities from Fires and Explosions

Fires and explosions are responsible for the loss of more than 6,000 lives a year in the United States. Only motor vehicle injuries and falls take a larger toll of accidental death. The peak mortality is usually reached in December, when the toll is more than three times that in July or August. More than four-fifths of the people who die as a result of fires and explosions obtain their injuries in and about the home. Factories, workshops, mines and quarries account for only about five percent of the deaths.

Enlarged Facilities at St. Francis Hospital

The establishment of a cardiovascular research and surgical unit at St. Francis Hospital, Evanston, Illinois, has been made possible by an anonymous grant which will also provide for the first three years of operation. The station will include a cardiopulmonary physiology laboratory for the purpose of diagnosis and evaluation of congenital and acquired cardiac and pulmonary problems, and will also provide complete cardiac catheterization and pulmonary function studies. In addition, the funds

—Continued on page 212a

ASCORBACAINE capsules
FOR THE
RAPID CONTROL OF PRURITUS

ASCORBACAINE



Formula:
Each Ascorbacaine Capsule contains:
Ascorbic Acid . . 150 mg.
Procaine hydrochloride . 250 mg.

Oral Therapy: Easy to administer. May eliminate the need for ointments and bandaging.

Fast Action: Many patients experience almost immediate relief from itching. Effect of a single dose may last from four to six hours.

Indications: For the treatment of pruritic symptoms due to atopic dermatitis, antibiotic reactions, food urticaria, serum sickness, contact dermatitis, drug reactions and other allergic manifestations.

Dosage: One (1) Ascorbacaine Capsule every four (4) hours. Dosage should be adjusted to individual requirements.

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S-M-A Service* . . . A specialized program designed to complement the instructions of the physician from the first visits of the expectant mother through the months of infant feeding. The Service includes the beautifully illustrated and informative "Your Baby Book"; a personalized Mother's Gift from you; "Instructions for Care of Mother and Baby."

Additional features of the S-M-A Service include a physician's handbook, "Modern Infant Feeding," for your personal use.

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*Available without charge from your Wyeth Territory Manager for all obstetrical patients in your practice.

This advertisement conforms to the Code for Advertising of the Physicians' Council for Information on Child Health.

NEWS AND NOTES

—Continued from page 210a

will make available the establishment of a surgical research laboratory and all necessary operating-room equipment for cardiac surgery.

Dr. Max Reiss

Dr. Max Reiss of Great Britain has been appointed Director of Research at Willowbrook State School, Staten Island, New York, where he will organize and direct a new unit to conduct research in mental retardation, combining the technics of clinical psychiatry, biochemistry, and endocrinology.

Affiliation of Two Medical Groups

By a recent affiliation, the Skin and Cancer Hospital of Philadelphia has become the Dermatological Division of the Temple University Medical Center. Under the agreement, Temple is responsible for the medical staff and the professional care of patients while the Skin and Cancer Hospital continues to assume financial and administrative obligations. Facilities for basic research projects are to be made available at the Medical Center. In addition to diagnostic, superficial and deep therapy X-ray equipment, radium, therapy, and ultraviolet light therapy, the hospital has two operating rooms for dermatologic and skin cancer surgery.

Plastic Lenses Aid Millions

A 450-year-old theory for correcting faulty vision has been perfected to the satisfaction of four million Americans.

—Continued on page 216a

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irrigate and rinse, quickly, easily and effectively



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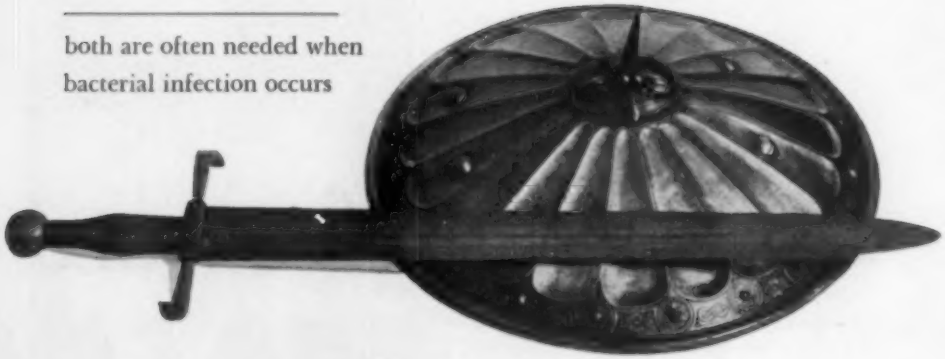
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Supplied: Tincture 1:1000 tinted, tincture 1:1000 stainless, and aqueous solution 1:1000 in 8 oz. and 1 gal. bottles. Concentrate (12.8% buffered aqueous solution) in 4 oz. and 1 gal. bottles.

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both are often needed when bacterial infection occurs



for a direct strike at infection

Mysteclin-V contains tetracycline phosphate complex

It provides a direct strike at all tetracycline-susceptible organisms (most pathogenic bacteria, certain rickettsias, certain large viruses, and Endamoeba histolytica).

It provides the new chemical form of the world's most widely prescribed broad spectrum antibiotic.

It provides unsurpassed initial blood levels – higher and faster than older forms of tetracycline – for the most rapid transport of the antibiotic to the site of infection.

for protection against monilial complications

Mysteclin-V contains Mycostatin

It provides the antifungal antibiotic, first tested and clinically confirmed by Squibb, with specific action against Candida (Monilia) albicans.

It acts to prevent the monilial overgrowth which frequently occurs whenever tetracycline or any other broad spectrum antibiotic is used.

It protects your patient against antibiotic-induced intestinal moniliasis and its complications, including vaginal and anogenital moniliasis, even potentially fatal systemic moniliasis.

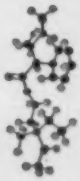
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Squibb Tetracycline Phosphate Complex (Sumycin) and Nystatin (Mycostatin)

Capsules *(250 mg./250,000 u.), bottles of 16 and 100.* Half-strength Capsules *(125 mg./125,000 u.), bottles of 16 and 100.* Suspension *(125 mg./125,000 u. per 5 cc.) 60 cc. bottles.* Pediatric Drops *(100 mg./100,000 u. per cc.). 10 cc. dropper bottles.*

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'MYSTECLIN'®, 'SUMYCIN'® AND 'MYCOSTATIN'® ARE SQUIBB TRADEMARKS

three-way mechanism of action  in one molecule

A long step forward

"MUREL"®

Brand of Valethamate bromide

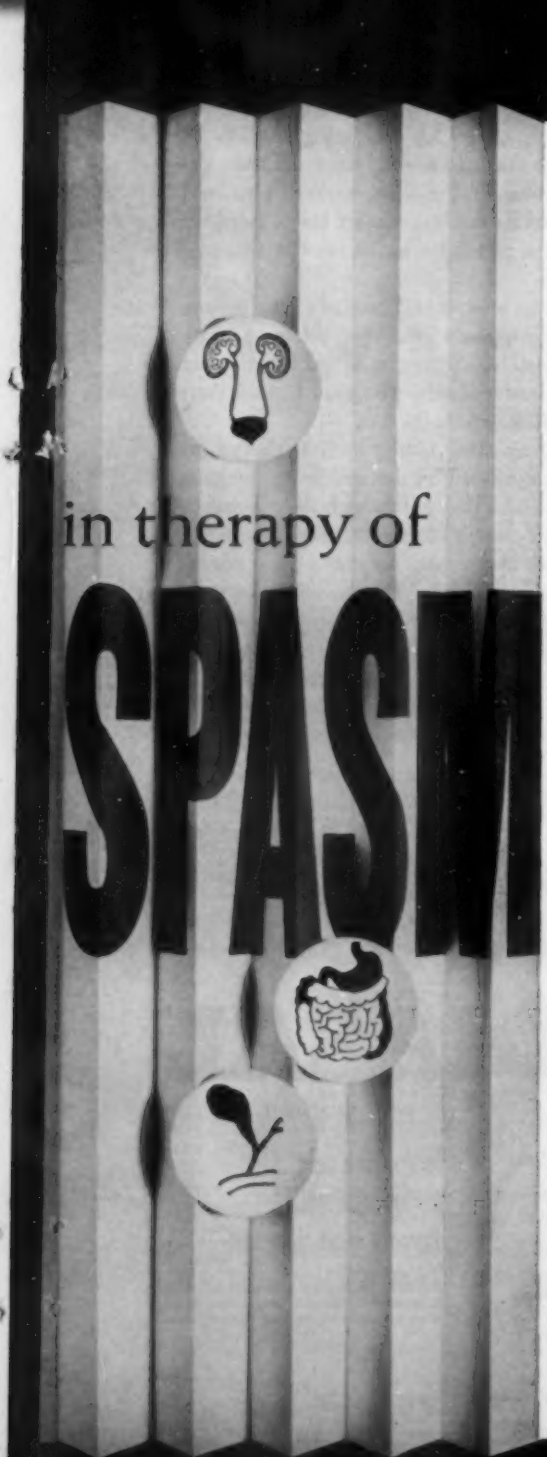
"MUREL" is the newest development of research in quaternary ammonium compounds. It advances today's therapy of G.U., G.I. and biliary tract spasm toward the ideal in decisive relief without intolerance or drug-induced complications. "MUREL" also supplements peptic ulcer therapy by breaking the chain reaction of spasm-pain.

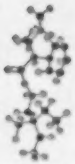
Dosage: Mild to moderate cases: initially, 1 or 2 tablets four times daily. Acute or severe cases: 1 to 2 cc. (10-20 mg.) intravenously or intramuscularly every four to six hours up to maximum of 60 mg. in 24 hour period. The higher dosage range is usually required in spasm of G.U. and biliary tract.

Supplied: "MUREL" Tablets—10 mg. Valethamate bromide, bottles of 100 and 1,000. "MUREL" Injectable—10 mg. per cc., vials of 5 cc. (Also available: "MUREL" with Phenobarbital Tablets—10 mg. Valethamate bromide with ¼ gr. phenobarbital per tablet, bottles of 100 and 1,000.)

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Three-Way Mechanism of Action in One Molecule

"MUREL" unites three mechanisms specific for smooth muscle spasmolysis: (1) **anticholinergic** inhibition of parasympathetic transmission, (2) **musculotropic** action with specific affinity for smooth muscle fibers, and (3) **ganglionic blocking** action at the synaptic level.

Precludes or Minimizes Untoward Side Effects

"MUREL" is especially well tolerated because: (1) coordination of the three component actions permits significantly low dosages and also reduces reaction potential of any one mechanism, (2) a natural specificity confines the anticholinergic action to the effector cells of smooth muscle, (3) definite but transient ganglionic blocking action eliminates undesirable parasympathetic disturbances, (4) rapid detoxification and excretion prevent cumulative effect.

Widely Useful— Clinically Demonstrated

"MUREL" extends the clinical scope of dependable spasmolytic therapy, with indications ranging from mild to severe hypertonicity. In postoperative *genitourinary* spasm, cystitis and pyelitis—effective relief of pain and spasm was noted in all of 75 patients.[1] In *peptic ulcer*—complete or substantial relief from the pain/spasm cycle was reported in 119 out of 127 patients.[2,3] In *biliary spasm* and chronic cholecystopathies with or without stones—prompt, complete control of spasm was obtained in 20 out of 22 patients.[3]

Peiser[2] states that even extremely strong convulsive abdominal pain and violent vomiting could be eliminated or substantially improved, and no unpleasant side effects or toxic reactions were noted at any time.

1. Berndt, R.: Arzneimittel-Forsch. 5:711 (Dec.) 1955.
2. Peiser, U.: Med. Klin. 50:1479 (Sept. 2) 1955.
3. Winter, H.: Medizinische, p. 1286 (Aug. 27) 1955.

NEWS AND NOTES

—Continued from page 212a

Advance in 1508 by the Italian artist and scientist, Leonardo da Vinci, the theory called for placing of lens in direct contact with the eye.

Until recent years scientists have been thwarted by the fact that lenses they developed were found to be "unsafe, uncomfortable, and almost impossible to fit properly." This was reported in a recent issue of *Today's Health*.

The modern "invisible glasses," known as the corneal contact lenses, are tiny pieces of plastic, measuring about one third of an inch across, which rest comfortably on the corneas over the small area covering the pupils.

It is estimated by the article's author, Robert M. Eret, Chicago, that nearly four million persons will be wearing these contact lenses by late 1958.

He said, "An increasing number of bespectacled seamen, pilots, athletes, policemen, and outdoor workers have been freed by corneal contact lenses from the whim of wind, weather, and jarring motion."

The new type lenses are also becoming popular with actors, actresses, musicians, and young men on the way up in business, who just want to look their best in public, he said.

According to the author, the advantages offered by the new lenses include:

—The ease with which the glasses are kept clean and free of grease, perspiration, and steam, because plastic doesn't attract grease. This enables the nearsighted to shave and shower without losing the soap.

—The return to the wearer of some 15 per cent of his side vision, lost when wearing spectacles.

—Continued on page 218a



choice salt substitute in a pinch...

and in any low-salt diet you prescribe

DIASAL®

salt without sodium

looks like salt...
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DIASAL, containing potassium chloride, glutamic acid and inert ingredients, is supplied in 2-ounce shakers and 8-ounce bottles.

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You can consistently reduce elevated serum cholesterol without rigid dietary restrictions*

MONICHOL permits a full, balanced diet

without caloric imbalance created by intake of some cholesterol-lowering agents

without economic burden to your patient—pleasant tasting MONICHOL is well suited for long-range therapy

"Therapy with polysorbate 80-choline-inositol complex [MONICHOL] is practical and allows for full patient cooperation in that there are no marked dietary restrictions."[1]

1. Questions and Answers: J.A.M.A. *166*:108 (Jan. 4) 1958.

Supplied: Bottles of 12 fl. oz.
Recommended Dosage: 1 teaspoonful q.i.d. or 2 teaspoonfuls b.i.d.

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with 1 single herbal ingredient

In treating coughs and respiratory disorders three objectives are essential: (1) Control of the cough impulse; (2) Stimulating natural respiratory tract fluid; (3) Increasing ciliary activity.

Pertussin fulfills all three of these requirements with one single herbal ingredient . . . thyme! The pharmacodynamic influence of Pertussin supplies such necessary therapeutic elements . . . yet it contains no opiates, bromides, coal-tar derivatives or depressants. It is an ideal vehicle for other medications. Non-constipating. Equally effective for children and adults.

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—Continued from page 216a

—The restoration of two-way conversation; people can now look the wearer in the eye.

—The longer period of time that they can be worn as compared with the length for the old scleral type contact lenses. The corneal lens can be worn for periods up to 16 to 18 hours.

—The prescription will last at least three to five years, and possibly as long as 20 years. Prescription for common spectacles must be changed every year or two.

—Benefits from the new plastic lenses have been expanded to include persons in the so-called "bifocal years"—usually after 40. Thought to be impossible until a few months ago, the close and distance vision corrections of bifocals can now be ground into corneal contact lenses.

While only four million persons soon will be wearing contact lenses, the author estimates that most of the 72 million suffering from defective sight can comfortably wear contact lenses.

"A few people with rare conditions of the eye and lid cannot be fitted, and others . . . simply can't tolerate having something placed against their eyes," the author concluded.

Common House Plant Found to Cause Dermatitis

Some species of the popular house plant philodendron have been found to cause a skin eruption similar to that produced by poison oak.

Writing in *Archives of Dermatology*, two Los Angeles doctors said contact with philodendron leaves produces red

—Continued on page 220a

THIS PATIENT IS GETTING "INJECTION EQUIVALENT" ANDROGEN

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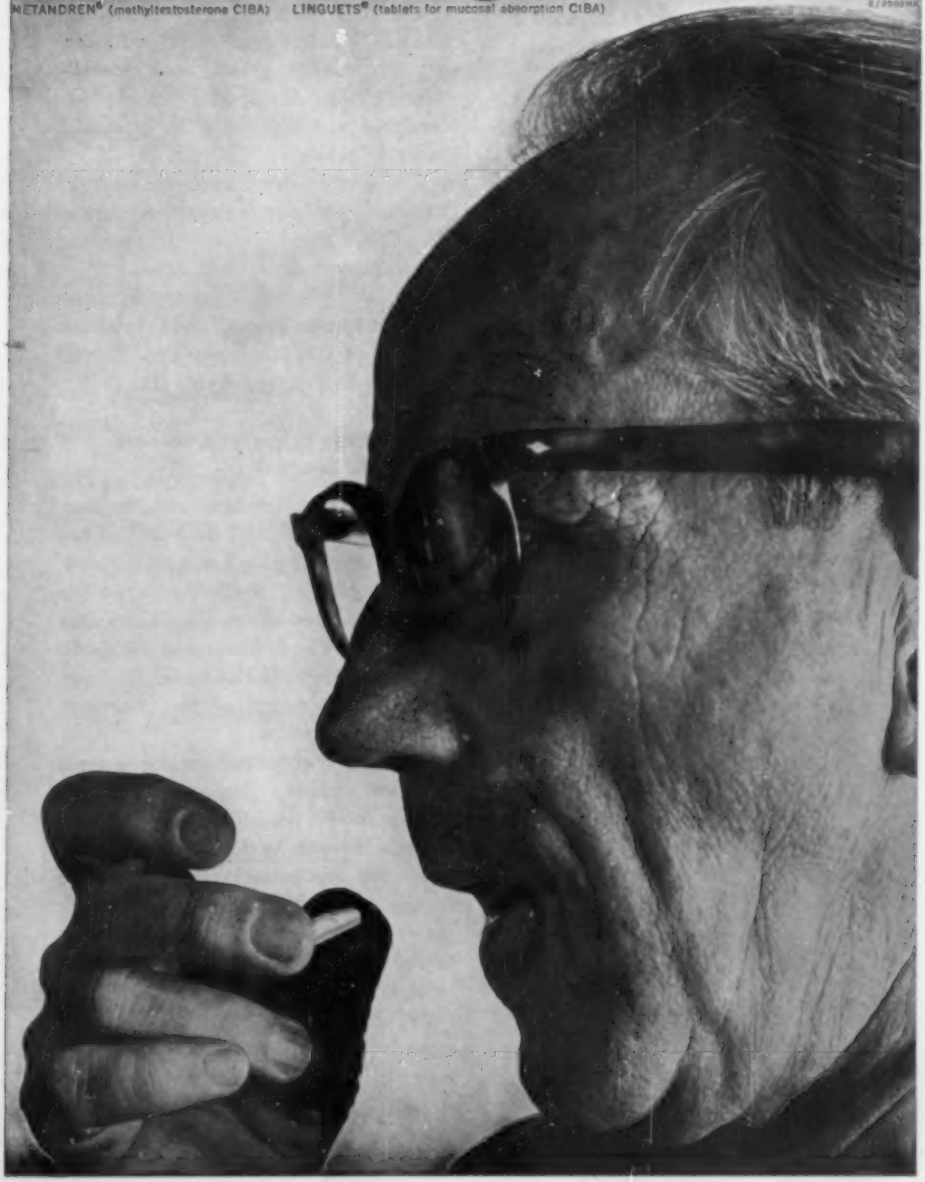
In Males climacteric, impotence, angina pectoris. **In Females** menopause, frigidity, premenstrual tension and dysmenorrhea, functional uterine bleeding. **In Both** for anabolic effects and chronic debility after: severe injury, prolonged illness, major surgery, severe malnutrition, severe infection.

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NEWS AND NOTES

—Continued from page 218a

blotches and streaks of tiny blisters. They usually occur on the hands and forearms, although they may occur other places.

The number of cases of dermatitis resulting from contact with philodendrons is probably greater than generally thought they said, especially since philodendrons are increasing in popularity as house plants.

The doctors have seen at least 12 cases of philodendron-caused dermatitis in the last few years. The medical literature mentions other cases.

The skin eruptions generally clear after the exposure to the plants is ended. Authors of the article are Drs. Samuel Ayres Jr. and Samuel Ayres III.

Hip Bursitis Described in A.M.A. Journal

Pain in the lower back and legs may actually be "bursitis of the hip" and not sciatica, according to Texas orthopedist.

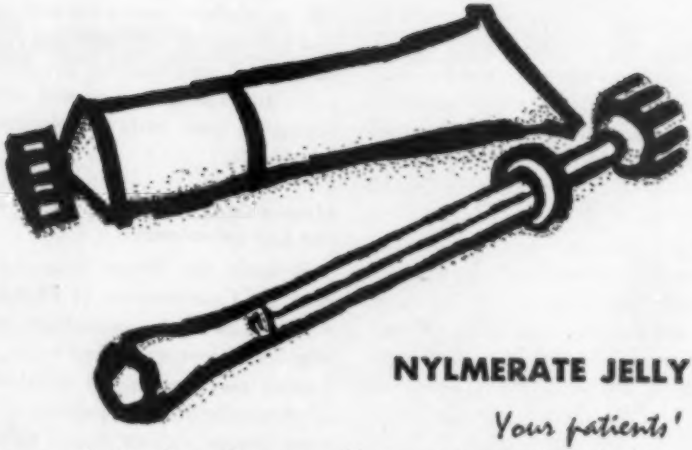
The condition, medically called the trochanteric syndrome, may be treated in the same way as brusitis of the shoulder Dr. Morton H. Leonard, El Paso, said in the *Journal of the American Medical Association.*

Bursitis, a general term for several disorders, usually means the inflammation of the fluid-filled sacs that act as pads between tendons and bones.

In the trochanteric syndrome, the bursae and tendons near the trochanter major are affected. The trochanter major is a projection from the thigh bone near where it joins the hip bone.

As in shoulder bursitis, the usual cause of the trochanteric syndrome is

—Continued on page 222a



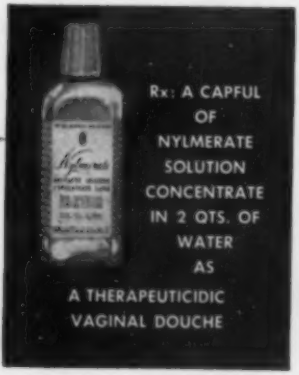
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Your patients' Vaginal discharges are problems of control and elimination with effective medication . . . in the shortest possible time! More and more physicians solve these problems by relying on . . . prescribing . . . Nylmerate, the proven therapy.*

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AND IN PROPHYLAXIS

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* Nylmerate
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is effective as a trichomonicide,
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NEWS AND NOTES

—Continued from page 220a

the wear and tear of everyday use, Dr. Leonard said. It is not so common or so well known as bursitis of the shoulder.

The onset is frequently sudden, with pain on the side of the hip extending down the back and side of the thigh. Pain may be referred to the lower back. Local tenderness in the region is constant. If there are calcium deposits in the area, a low-grade fever may occur.

Treatment may include x-ray therapy, diathermy, puncture of the affected bursa, and surgical removal of calcium. Dr. Leonard has also found that injections of the steroid hydrocortisone acetate into the affected part also helps.

Studies of Birth Process

A grant of $400,000 has been made to the Harvard Medical School and the Boston Lying-In Hospital for basic studies in problems surrounding the origin of life and the birth process by the Association for the Aid of Crippled Children. This award supplements an earlier amount of $371,000. The money will be available over a ten-year period, and will support a coordinated program of research and teaching devoted especially to problems associated with the beginning and early development of human life.

Magee Memorial Hospital for Convalescents

Recently, the Magee Memorial Hospital for Convalescents of Philadelphia was opened with appropriate ceremonies. The five-story, 78-bed building will furnish services for the rehabilitation of physically disabled patients of all income groups without regard to race or creed. The hospital was made possible by a seven-million dollar trust fund left by Miss Anna J. Magee. The hospital will be controlled by representatives from eleven general hospitals in the city.

"...a plateau type of stimulation..." was obtained.*

clinical investigators report benefits and *safety* of

Ritalin® hydrochloride (methylphenidate hydrochloride CIBA)

see page ▶ 34a

*Natenshon, A. L.: Dis. Nerv. System 17:392 (Dec.) 1956.

CIBA SUMMIT, N. J.

Chilean Physician Cites Economic Effects of Diseases

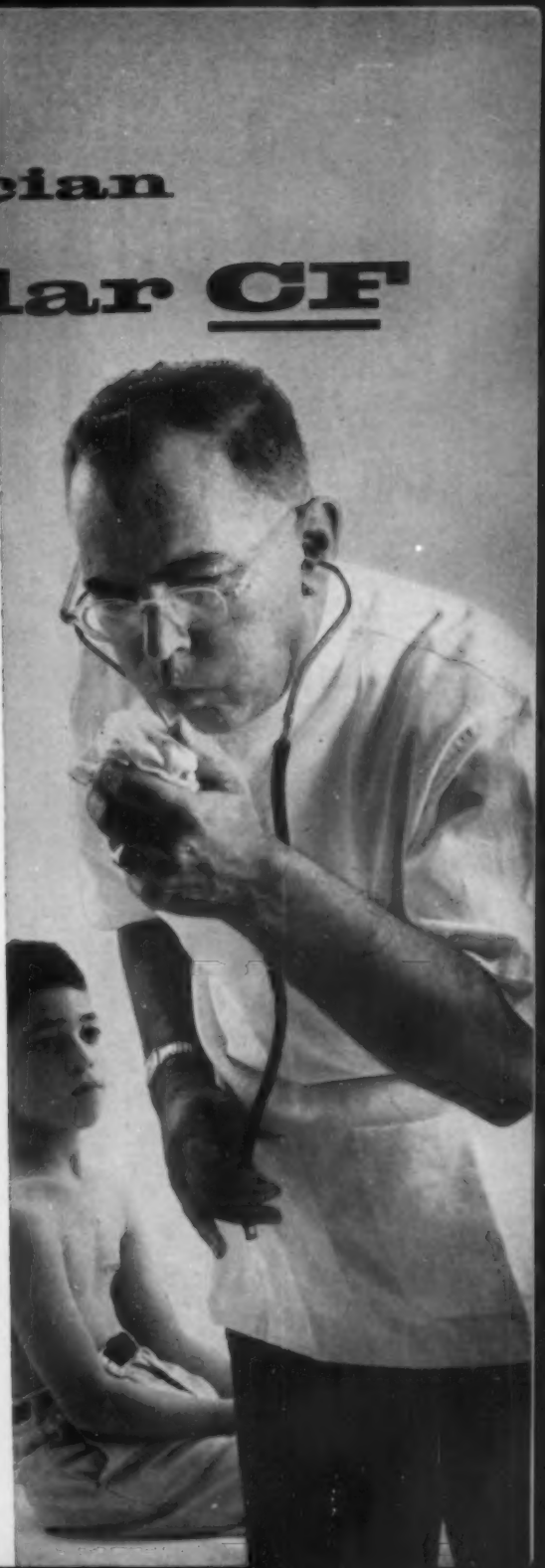
The fight against cancer and tuberculosis is the responsibility of physicians throughout the world, according to Dr. Hector Orrego Puelma of Santiago, Chile.

He made the statement during a recent visit to the New York laboratories of Dr. Casimir Funk, famous biochemist and "father of vitamin therapy."

Tuberculosis and cancer research should receive the greatest possible support by governments as well as the public, Dr. Puelma said. In addition to causing human suffering, these diseases have vital economic effects on nations.

—Continued on page 224a

this pediatrician needs Romilar CF



Romilar® Hydrobromide
brand of dextromethorphan hydrobromide



for
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ACNE

Clinically superior in severe acne vulgaris. 1, 2, 3.

REZAMID® Lotion *(NSulfamylacetamide 8.5%, Resorcin 2% and Sulfur Colloid 5%, 'Dermik')*

For acne vulgaris complicated by erythema and inflammation. 1, 2, 3.

CORT-ACNE™ Lotion *(Hydrocortisone Alcohol .25%, NSulfamylacetamide 8.5%, Resorcin 2%, and Sulfur Colloid 5%, 'Dermik').*

References: 1. Way, C.S., Andrews, G.C. and Domonkos, A.N.: Topical Hydrocortisone Therapy in Acne Rosacea and Acne Vulgaris.: N. Y. State Jour. of Med. (Nov.) 1957
2. Neidorff, A.H.: A New Concept on the Treatment of Acne Vulgaris (NSulfanilylacetamide). Ohio State Med. Jour. pp. 283 (March) 1957
3. Baker, K.C.: Synergistic Acne Therapy. Southwestern Medicine, 37:5 pp. 337 (May) 1956

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*"... they were alert, fatigue disappeared, and they could go all day without tiring [89 patients]."**

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*Natenshon, A. L.: Dis. Nerv. System 17:392 (Dec.) 1956.

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NEWS AND NOTES

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With regard to tuberculosis, he pointed out that this disease generally strikes its victim between the ages of 18 and 35, a peak period in his economically productive life. On the other hand, treatment and recuperation are expensive, thus doubly affecting the national economy.

Dr. Orrego is the head of the Medical Department at the Hospital del Torax of Santiago and director of the Medical Graduate School of Chile. He is the 1958 winner of an annual scholarship awarded by Arlington-Funk Laboratories Division of U. S. Vitamin Corporation, U.S.A., and Arlington-Funk Laboratories de Chile, Inc. The scholarship makes it possible for a Chilean physician to visit university hospitals and laboratories in the United States.

Dr. Orrego is proud of his 28 years as professor and 36 years as physician but declared he is still continuing his studies. Said he: "A doctor is an eternal scholar; if he is not, then he is a menace to society."

Dr. Funk must have agreed with these sentiments, for at the age of 75 he is probing new ways to combat cancer.

The Chilean physician was accompanied to the laboratories by H. B. Burns, president and chairman of the board of U. S. Vitamin Corporation, and I. A. Botty, vice president.

Grants to University of Michigan

Fourteen research grants totaling $48,428 have been awarded to faculty members of the University of Michigan by the Michigan Memorial-Phoenix Project, a campus-wide activity devoted

—Continued on page 226a

this pediatrician uses Romilar CF

When it comes to colds and coughs, pediatricians are no different from their patients . . . they all want to get rid of their symptoms and stay up and about, if possible.

Romilar Cold Formula controls the entire symptomatology of colds, including coughs. A synergistic combination,* Romilar CF

checks coryza
suppresses coughing
relieves congestion
controls fever and malaise

Each teaspoonful (5 cc) of pleasantly flavored syrup, or each capsule, contains: 15 mg Romilar HBr (non-narcotic antitussive); 1.25 mg Chlorpheniramine maleate (antihistamine); 5 mg Phenylephrine HCl (decongestant); 120 mg N-acetyl-p-aminophenol (analgesic-antipyretic).

*L. O. Randall and J. Selitto, *J. Am. Pharm. Assn. (Sc. Ed.)*, 47:313, 1958.

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Division of Hoffmann-La Roche Inc.
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NEWS AND NOTES

—Continued from page 224a

to finding peaceful uses of atomic energy. The announcement was made by Dean Ralph A. Sawyer of the Graduate School and Phoenix Project director. The project has attracted international attention for its uniqueness and diversity of interest. Titles of some of the research projects are: Mass Spectrometric Studies of Isotopic Reactions; Study of Flavor Problems in Irradiated Foods; Analysis of Pharmaceuticals by Neutron Activation; Genetic Effects of Low-Dosage Radiation; Studies on the Adaptation of Spectrophotometric Methods for the Detection of Irradiation Effects on Tissue Cultured Cancer Cells, Thyroid Cancer, Enzymology and Immunology; Cytological and Histochemical Changes in the Parenchyma of Lymph Glands of the Rat Resulting from X-irradiation, and The Life Span of Human Epidermal Cells.

Chaplaincy Fellowships

The Academy of Religion and Mental Health has announced a grant of $10,000 from the Smith, Kline and French Foundation to provide fellowships for theological students and clergymen of all faiths who want to become chaplains in mental hospitals. The project is known as the Smith, Kline and French Foundation Chaplaincy Fellowships. The Academy of Religion and Mental Health is a nonsectarian, nonprofit organization founded in 1954 "to develop further relationships between religious groups and the mental health professions," and is made up of mem-

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3 dimensional
nutritional protection
for every age
group

1 bioflavonoids
exclusive water-soluble
citrus bioflavonoid complex
(as provided in C.V.P.)

2 vitamins
all the available
important factors

3 minerals
all essential
prime and trace
minerals

bers of the American Psychiatric Association, American Psychological Association, clergymen, psychiatric social workers, cultural anthropologists, educators, and laymen. The organization serves as a consultant to hospitals, medical schools, and mental health units both here and abroad.

Preservation of Eye Tissue

A new method of preserving living eye tissue for as long as ninety days has been reported by a scientist from the Department of Surgery of Duke University Medical Center. Low temperatures and special chemical solutions are utilized to keep corneal tissue alive and capable of growth. The solutions contain a number of the constituents of human blood and are maintained at 45 degrees F. below zero. By methods now in use, corneal tissue may be preserved for 48 hours. Although corneas have been preserved experimentally for as long as three weeks, there has been no laboratory method of determining whether all the layers of corneal tissue are alive at the end of that period. The professors at Duke have succeeded in developing a tissue culture method to test the growth capability of the various layers of tissue.

Bone Studied at the University of North Carolina

Factors influencing bone formation and malformation will be studied under grants to the University of North Carolina School of Medicine from the Easter Seal Research Foundation. Two grants, totaling $12,650, will support individ-

—Continued on following page

A superior shield against dietary deficiencies during pregnancy, in aged and debilitated patients, in restricted diets to help speed recovery in medical and surgical patients, BIVAM provides capillary-protectant citrus bioflavonoid complex and key nutrients essential to normal metabolism, anabolism, and optimal health.

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TABLETS

Dose of 3 BIVAM tablets provides:

Citrus Bioflavonoid Compound*	100 mg.
Ascorbic Acid (C)	100 mg.
Calcium Lactate	1 Gm.
Ferrous Gluconate	100 mg.
Vitamin A	6000 U.S.P. Units
Vitamin D	600 U.S.P. Units
Thiamine Mononitrate (B_1)	3 mg.
Riboflavin (B_2)	3 mg.
Pyridoxine HCl (B_6)	3 mg.
Vitamin B_{12} (cobalamin concentrate)	3 mcg.
Niacinamide	25 mg.
d, Calcium Pantothenate	5 mg.
Folic Acid	0.5 mg.
Menadione (K)	1 mg.
Vitamin E (dl. alpha tocopheryl acetate)	1 Int. Unit
Magnesium	3 mg.
Manganese	1 mg.
Copper	1 mg.
Zinc	1 mg.
Molybdenum	0.2 mg.
Iodine	0.1 mg.
Cobalt	0.1 mg.

*Contains the many active bioflavonoid factors of the specially processed water soluble bioflavonoid complex from citrus.

Bottles of 100, 300 and 1000 tablets.

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—Continued from preceding page

ual but related studies which may contribute to the prevention and treatment of rickets and other diseases of the bone.

The first project will be devoted to the study of the kidney mechanism for reabsorbing and excreting phosphate to attempt to determine if improper function in reabsorbing the salt may be responsible for certain types of rickets, other bone diseases and disorders of the parathyroid glands. The related study concerns the role of the parathyroid hormone in metabolic bone disease, and will attempt to develop a new biologic method of analyzing activity of the hormone in relation to the glands' action.



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Allegheny County Hospital

Situated eight miles from downtown Pittsburgh, the new 22-million dollar Allegheny County Hospital is now in operation. The facility, with a 2,100-bed capacity, is comprised of a main eight-story building, two convalescent wings, two rows of ambulatory dormitories, an auditorium, an interdenominational church, a power station, separate nurses' homes, and physicians' residences.

University of California Medical Center to Have New Children's Wing

Construction of a new children's wing at the University of California Medical Center at Los Angeles has been made possible through a gift of $1,500,000 from Marion Davies, former screen star. The first floor of the new building will house the Children's Clinic which was established by Miss Davies in 1933.

Grant to University of Miami

The Department of Medicine of the University of Miami School of Medicine has received a grant of $75,000 from the Squibb Division of Olin-Mathieson for clinical cancer chemotherapy studies over a three-year period. A special unit has been set up in Jackson Memorial Hospital to handle the transition from laboratory to clinical testing.

Health Facilities for American Indians

Congress has appropriated $1,450,000 for the construction of a new 75-bed hospital to serve about 14,000 Navajo Indians. The "Navajo" hospital at

—Continued on page 230a

UNEXCELLED ADVANTAGES...IN BOTH BASIC DIURETIC REGIMENS

DIAMOX*

bicarbonate-regulating diuretic

Acetazolamide Lederle

HOW DIURETICS ACT

Primarily by regulation of chloride transport	DIAMOX acetazolamide
Primarily by regulation of chloride transport	mercurials, chlorothiazide

1 **Advantages of DIAMOX in single-drug diuresis**

DIAMOX—operating through the well-understood mechanism of *bicarbonate* transport regulation—provides ample, prolonged diuresis in the great majority of patients.

DIAMOX is virtually nontoxic . . . has not caused renal or gastric irritation . . . has no pronounced effect on blood pressure. It is rapidly excreted, does not accumulate in the body, permits convenient dosage adjustment, allows unbroken sleep. Small, tasteless, easy-to-take tablets . . . usual dosage, only one a day.

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2 **Advantages of DIAMOX in intensive, two-drug diuresis**

When intensive diuresis must be maintained, DIAMOX, alternated with an agent for regulation of *chloride* transport, has proved a regimen of choice. Through dual *bicarbonate-chloride* regulation, it produces maximal sodium-water excretion with minimal distortion of serum electrolyte patterns, greater patient comfort, lessened risk of induced drug resistance.

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NEWS AND NOTES

—Continued from page 228a

Shiprock, New Mexico is one of four medical facilities authorized by Congress. A second facility in New Mexico will be located at Gallup; the other two will replace obsolete, crowded buildings at Sells, Arizona, and Kotzebue, Alaska.

Memorial Laboratories at Stanford

The William A. Ross Memorial Laboratories will become a part of the new Stanford University Medical Center. The project has been made possible by a gift of $100,000 from Mrs. Ross.

Poliomyelitis Studies at Columbia

Studies are being continued at Columbia University of the mechanism that controls heredity in poliomyelitis viruses. The National Foundation for Infantile Paralysis have awarded $70,226 for the project.

Ophthalmologists on Tour of the Orient

The Asia-Pacific Academy of Ophthalmology is the sponsor of a good will tour to countries of the Orient, following the International Congress of Ophthalmology in Brussels. The purpose of the tour is the holding of joint meetings with ophthalmologists in Pakistan, India, Thailand, the Philippines, and Hong Kong. The members of the Academy hope to extend ophthalmologic knowledge and to advance the arts and sciences of ophthalmology in Asia and the countries bordering the Pacific Ocean; to cultivate social and fraternal relationships with physicians residing in Asia, and to offer post-graduate in-

—Continued on page 232a

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(reserpine CIBA)

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—Continued from page 230a

struction in ophthalmology through the medium of lectures, roundtable discussions, seminars, clinics, and films.

A Card for the Patient on Anticoagulant Therapy

An "emergency" identification card for the protection of patients on long-term anticoagulant therapy is now available to physicians from the American Heart Association and its affiliates. The card has been designed to protect patients taking anticoagulants in case of accident or treatment that might involve bleeding.

Turkish Center for Medical Training

The Rockefeller Foundation has made a two-year grant of $170,000 to the Faculty of Medicine of the University of Ankara, Turkey, which is enrolling increasing numbers of students from other Middle Eastern countries. Fees for these students are paid by the Turkish Government. For the last two years, the medical curriculum has been arranged to utilize smaller classes, and include more laboratory work and hospital experience.

Orthopedic Laboratory at the University of Kansas

An announcement has been made of the completion of the James B. Weaver Laboratory for Orthopedic Surgery at the University of Kansas School of Medicine. The facility is a memorial to the physician for whom it is named, and who was a member of the faculty of the School of Medicine for thirty years. The new laboratory for clinical chemistry, in addition to research in orthopedics, will contain the "bone bank," a project of which Dr. Weaver was the founder.

Radiation Protection Regulation

In Pennsylvania, the State Section of Health has announced approval of a second major amendment to Radiation Protection Regulation 433 which requires the use of aluminum filters, cones, and diaphragms on diagnostic x-ray and fluoroscopy machines. The regulation is designed to protect the public against dangers of ionizing radiation. The first amendment, in February 1957, outlawed shoe-fitting fluoroscopes.

School for Mentally Retarded in New York State

Plans have been announced for construction of a school for the mentally retarded at West Seneca, New York, to serve eight counties in the area. The

—Concluded on page 234a

"The pills
the doctor gave me
built me up fast.
They were
a lifesaver."*

clinical investigators
report
benefits and *safety* of

Ritalin® hydrochloride
(methylphenidate
hydrochloride CIBA)

see page ▶ 34a

*75-year-old carpenter
treated for postcoronary depression.
(Personal communication)

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in gastrointestinal hemorrhage

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"has often proved...lifesaving when all other methods failed"*

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* Jackson, A. S.: Journal-Lancet *76*:45 (Feb.) 1956.

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NEWS AND NOTES

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cost is estimated at 50 million dollars. Though designed for 2,400 patients, the facility can be expanded to accommodate 3,000. Thirty-bed cottages will be used for boys and girls of school age; buildings for adults will consist of four 30-bed wards, while severely retarded patients will be housed in buildings containing three 40-bed wards. Among a number of separate units will be a building for 180 infants and young children, and a children's psychiatric hospital.

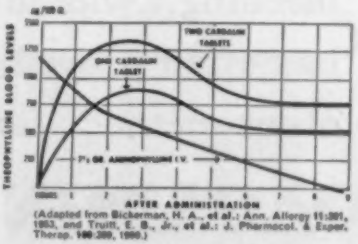
Dr. Theodore H. Ingalls

Dr. Theodore H. Ingalls, formerly Associate Professor of Epidemiology at the Harvard University School of Public Health recently joined the University of Pennsylvania School of Medicine faculty, as Professor of Preventive Medicine and Epidemiology. The Doctor will be responsible for developing and directing a division of graduate reach and training in the University's Department of Public Health and Preventive medicine. The new division will have as one of its major objectives the training of physicians to be competent investigators in the field of non-infectious diseases.

Dr. Ingalls and his associates will carry on a long-term research project studying methods of health examinations and technics for the early detection of chronic diseases, an activity supported by a five-year grant of $400,000 from the W. K. Kellogg Foundation.

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(Adapted from Bickerman, H. A., et al.: Ann. Allergy 11:391, 1953, and Truitt, E. B., Jr., et al.: J. Pharmacol. & Exper. Therap. 100:289, 1950.)

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clinical investigators report benefits and *safety* of

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see page ▶ 34a

*Ferguson, J. T.: J. Am. Geriatrics Soc. 4:1080 (Nov.) 1956.

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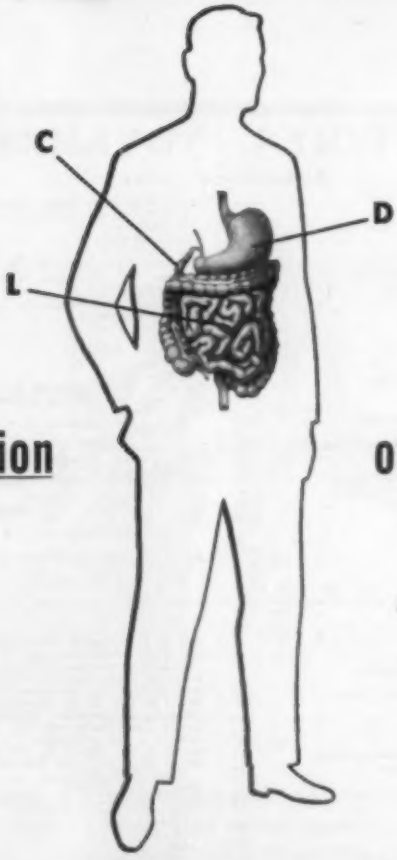
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poor muscle tone
irregularity

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[1]Brusch, C.A., et al.: Md. State Med. J.; 5:36, 1956.

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